

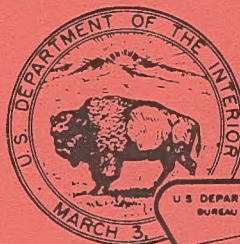
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ALLEN—WARNER VALLEY ENERGY SYSTEM ENVIRONMENTAL IMPACT STATEMENT

FINAL
VOLUME 2: COMMENTS AND RESPONSES



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COMMENTS AND RESPONSES

The Allen-Warner Valley (AWV) environmental impact statement (EIS) team has reviewed 138 letters, and transcripts of testimony from a total of 83 persons recorded at five public hearings during the comment period of the AWV draft EIS.

This volume contains reproductions of all letters received in comment to the draft EIS, substantive excerpts from oral testimony given during the five public hearings held during the draft EIS comment period, and reproductions of written exhibits which were presented at those hearings. Specific comments are bracketed and BLM responses are adjacent to the comments.

As required under the Council of Environmental Quality Regulations, all comments from letters and hearings testimony were responded to by EIS team specialists. Individual assorted comments responded to totaled approximately 1,500. Where comments warranted changes in the text of the EIS or presented new substantive information, the text of the final EIS was revised accordingly and reference to these sections is made in the response to specific comments.

LETTER COMMENTS AND RESPONSES

The following section presents reproductions of all letters received during the draft EIS comment period. Letters are numbered in the order in which they were received. Specific comments in each letter are bracketed, with BLM responses adjacent.

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UTILITY COMMISSION

Chairman, S. D. W. BIRCHFORTH
Commissioner, H. B. STUCKI
Commissioner, W. B. HALL

Power Superintendent, ROBERT J. CANFIELD
Water Superintendent, GLEN L. GRIFFIN
Secretary, Director, RUDGER M. MCARTHUR

JUNE 25, 1980

MR. DAVE EVERETT
BUREAU OF LAND MANAGEMENT
1579 NORTH MAIN
CEDAR CITY, UTAH

DEAR DAVE:

5 AS I STARTED TO READ THROUGH THE ENVIRONMENTAL IMPACT STATEMENT I WAS BOWLED OVER BY TWO VERY INACCURATE STATEMENTS. THE FIRST "THE UTAH PUBLIC SERVICE COMMISSION DECLINED TO COMMENT SINCE THE MUNICIPAL POWER SYSTEM IN ST. GEORGE IS NOT UNDER THEIR JURISDICTION. HOWEVER, BLM ASSESSMENT INDICATES THAT ST. GEORGE WOULD NOT NEED THE POWER REPRESENTED BY THE ANV ENERGY SYSTEM, PROVIDED THAT THE EXISTING PURCHASE POWER CONTRACT WITH UTAH POWER AND LIGHT COMPANY WOULD BE CONTINUED AND ADDED TO MEET FUTURE ENERGY DEMAND. AND SECOND "INFORMATION DEVELOPED BY CENTAUR ASSOCIATES, INC. (A BLM CONTRACTOR) INDICATES THAT THE NEED FOR A MUNICIPAL WATER SUPPLY TO SERVE SEVERAL SOUTHERN UTAH COMMUNITIES HAS BEEN MET BY A SEPARATE WATER DEVELOPMENT: THE SNOW CANYON PROJECT. THERE WOULD, HOWEVER, BE SEVERAL POTENTIAL USES FOR THE IMPOUNDED WATER, SUCH AS AGRICULTURAL OR RECREATIONAL USES.

FOR YOUR INFORMATION I AM ENCLOSING A RECENT ORDER OF THE PUBLIC SERVICE COMMISSION OF UTAH INDICATING THE FOLLOWING:

1 PARAGRAPH 5. "ALSO, WE HAVE PREVIOUSLY CONCLUDED THAT UTAH POWER & LIGHT SHOULD NOT ENTER INTO LONG TERM FIRM POWER SUPPLY CONTRACTS FOR RESALE TO NONJURISDICTIONAL CUSTOMERS."

237 NORTH BLUFF ROAD ST. GEORGE, UTAH 84770 (801) 673-3593

1

PAGE 2. DAVE EVERETT LETTER.

THE ORDER FURTHER CONCLUDES THAT:

PARAGRAPH 6. "IN OTHER WORDS, THE PROVISIONS FOR RENEWAL OF THE AGREEMENT SHOULD NOT BE BINDING OR ENFORCEABLE AGAINST C. P. NATIONAL IF THE COMMISSION SHOULD DETERMINE IN A FUTURE PROCEEDING THAT SUCH PROVISIONS ARE NOT IN THE PUBLIC INTEREST."

PARAGRAPH 7. "NOTHING CONTAINED IN THIS REPORT AND ORDER SHOULD BE CONSTRUED AS AN APPROVAL OF ANY RESALE ELECTRIC SERVICE AGREEMENT WHICH MAY EXIST BETWEEN UTAH POWER & LIGHT COMPANY AND THE CITY OF ST. GEORGE. UTAH POWER & LIGHT COMPANY IS NOT BEFORE THE COMMISSION IN THIS CASE.

IN THE TENTATIVE ORDER IT IS AGAIN STIPULATED "NOTHING IN THIS ORDER SHALL BE CONSTRUED AS APPROVAL OF ANY RESALE ELECTRIC SERVICE AGREEMENT WHICH MAY EXIST BETWEEN UTAH POWER & LIGHT COMPANY AND THE CITY OF ST. GEORGE."

FOR THESE REASONS WE BELIEVE THAT THE PROBABILITY OF EXTENDING OUR PURCHASE AND WHEELING AGREEMENTS WITH UTAH POWER & LIGHT AND C. P. NATIONAL IS NIL AND SHOULD BE SO INDICATED IN ANY FUTURE PRESENTATIONS CONCERNING THE NEED OF THE CITY OF ST. GEORGE FOR WARNER VALLEY POWER.

2 THE STATEMENT THAT WATER REQUIREMENTS OF THE SOUTHWESTERN UTAH COMMUNITIES HAVE BEEN MET NEEDS ONE WORD. (PRESENT) OUR PRESENT NEEDS HAVE BEEN MET BY THE DEVELOPMENT OF THE SNOW CANYON PROJECT. THE FUTURE WATER REQUIREMENTS OF THIS AREA CANNOT BE MET WITHOUT THE WARNER VALLEY RESERVOIR.

I WOULD APPRECIATE YOUR COOPERATION IN SEEING THIS INFORMATION IS IMMEDIATELY DISPATCHED TO INTERESTED PARTIES.

RESPECTFULLY,
UTILITY COMMISSION

By *Rudger M. McArthur*
RUDGER M. MCARTHUR

Rudger M. McArthur, City of St. George, Utah

RMM:BH

Response 1-1

ENC.

Your comments are addressed in the revised Purpose and Need of Proposed Project section in Chapter 1 of the final EIS.

Response 1-2

The Purpose and Need of Proposed Project section of Chapter 1 is revised to reflect your comment in the final EIS.

BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF UTAH

IN THE MATTER OF THE APPLICATION
OF CP NATIONAL CORPORATION FOR
APPROVAL OF "CONTRACT FOR TRANS-
FORMATION AND DELIVERY OF ELEC-
TRICITY" ENTERED INTO BETWEEN CP
NATIONAL CORPORATION AND THE CITY
OF ST. GEORGE UNDER DATE OF
JULY 20, 1979

REPORT AND
TENTATIVE ORDER

Case No. 79-023-05

Before the Commission:

Under date of July 30, 1979, CP National Corporation (herein "CPN") filed with the Commission a document entitled "Contract for Transformation and Delivery of Electricity" (herein the "Wheeling Agreement") dated July 20, 1979, between CPN and the City of St. George together with a certain "Operating Agreement" (herein the "Operating Agreement") of even date therewith between the City of St. George, CPN and Utah Power & Light Company. With the filing of the agreements CPN requested the Commission's approval of the same. The Commission is advised with respect to the subject matter of the Wheeling Agreement having heard evidence pertaining to the matter in prior rate cases. Having reviewed the agreements and being fully advised in the premises and having determined that this is appropriate subject matter for its summary procedure, the Commission now makes the following Findings of Fact and Conclusion together with its Order based thereon.

FINDINGS OF FACT

1. Over a period of several years, the Commission has been concerned with issues concerning the extent to which CPN should be allowed to recover costs and investment associated with its transmission line system from its Utah jurisdictional ratepayers. Cases Nos. 76-023-04, 77-023-08, 79-023-07 each involved issues with respect to transmission line expense, investment and revenues for rate-making purposes. The issue

arises because portions of the capacity of CPN's transmission lines have been used for the wheeling of energy under a long-term fixed rate contract with the Bureau of Reclamation to serve the Bureau's preference customers. Reference is made to the Reports and Orders in the above mentioned cases for the history of the transmission line issues and the manner in which the Commission has decided such issues.

2. CPN presently has transmission line capacity in excess of the requirements of its Utah jurisdictional customers. In Cases Nos. 77-023-08 and 79-023-07, the Commission's Report and Order required that future agreements for wheeling of energy be approved by the Commission. The Commission is principally concerned with the duration and wheeling rate provided for in future wheeling agreements because of the impact of such wheeling commitments on the jurisdictional rate-payers. Wheeling should be at compensatory rates and transmission capacity should not be committed to non-jurisdictional customers for long periods of time.

3. Subsequent to the Commission's Report and Order in 77-023-08, CPN undertook to wheel energy for the City of St. George. By letter dated June 21, 1979, CPN advised the Commission that St. George City had an immediate and urgent need for the delivery of energy which it had purchased from Utah Power and Light Company and the deliveries of such energy required negotiation of a wheeling agreement with CPN. At that time negotiations for the wheeling agreement were under way and because of the immediate and urgent need for deliveries to St. George, CPN requested the Commission for temporary emergency authority to wheel energy for St. George pending completion of the negotiations and delivery of the executed Wheeling Agreement. On July 30, 1979, CPN delivered the Wheeling Agreement with associated Operating Agreement and requested the Commission's approval to proceed with the transaction.

4. CPN's request for approval of the Wheeling Agreement was referred to the Division of Public Utilities for its recommendation. The Division recommended to the Commission that the Wheeling Agreement and Operating Agreement be approved. The Commission did not act upon the recommendation at that time because of a concern on the part of one of the Commissioners that approval of the agreements may be construed as approval of a firm power contract between Utah Power and Light Company and St. George City contrary to the Commission's Report and Order in an earlier Utah Power and Light rate case, Case No. 78-035-03. The Division was asked to study the matter further and on March 25, 1980, it submitted its further recommendation to the Commission recommending that the Wheeling Agreement and Operating Agreement be approved for a limited period of time to and including July 1, 1982. The Division's recommendation also suggested that the "Resale Electric Service Agreement" between Utah Power and Light Company and St. George City "would have to be modified to incorporate the proposed time limitation".

5. The Wheeling Agreement by its terms is to "remain in effect through July 1, 1982 and thereafter from year to year; provided, however, that after expiration of the initial term . . . either party may terminate this agreement by giving to the other one year's advance written notice of its intention to do so". There are sound reasons why the contract should be for a relatively short duration given the fact that the wheeling is to be at a fixed rate and also because present excess capacity may be required for future service to CPN's jurisdictional customers. Also, we have previously concluded that Utah Power and Light should not enter into long term firm power supply contracts for resale to nonjurisdictional customers.

6. The Wheeling Agreement also provides that the same "shall be subject to such modifications as the Commission or any other regulatory agency may from time-to-time make in the exercise of its jurisdiction". The Commission has determined that the agreement for the initial term therein provided, to wit, to and including July 1, 1982, should be approved. Annual renewals of the agreement beyond that period of time should be subject to the jurisdiction of the Commission recognizing that the wheeling customer St. George City will require some reasonable advance notice with respect to termination of the Wheeling Agreement. The Commission on its own motion, CPN, St. George City or any other interested party should be allowed to institute proceedings in the matter to consider whether or not the Wheeling Agreement should be terminated after July 1, 1982, should the parties agree to renew the same. In other words, the provisions for renewal of the agreement should not be binding or enforceable against CPN if the Commission should determine in a future proceeding that such provisions are not in the public interest.

7. Nothing contained in this Report and Order should be construed as an approval of any resale electric service agreement which may exist between Utah Power and Light Company and the City of St. George. Utah Power and Light company is not before the Commission in this case.

8. It is inappropriate to consider in this case any modification of the electric service agreement as recommended by the Division. We observe however that the Commission has jurisdiction over the Wheeling Agreement and the Operating Agreement.

9. We next consider the wheeling rate provided by the Wheeling Agreement. The Commission has heard considerable

evidence regarding CPN's transmission costs in various hearings relating to the company's transmission facilities. In Case No. 77-023-08, the Commission's Report and Order directed CPN to prepare and submit a study with respect to its transmission system including investment and operating costs associated with the system. A study was submitted and hearings were held in connection therewith. The Commission heard further evidence with respect to transmission line investment, expense and revenues in a subsequent case, Case No. 79-023-07. The Commission finds that the rate fixed by paragraph 10 of the Wheeling Agreement, to wit \$21.67 per kilowatt year, is a fair and just rate.

1D. The Operating Agreement provides, among other things, procedures for delivery of energy over CPN's transmission system. The provisions of the agreement appear to be consistent with the practice in the industry and reasonably necessary to effectuate the terms of the Wheeling Agreement. The performance of the Operating Agreement by CPN should be approved in connection with the Commission's approval of the Wheeling Agreement.

On the basis of the foregoing findings, the Commission makes the following

CONCLUSION

CPN's application for approval of the execution, delivery and performance of the Wheeling Agreement and Operating Agreement should be approved, effective as of the date of said agreements, subject to the conditions and limitation provided for in the foregoing Findings of Fact and in the Order herein-after set forth.

ORDER

NOW, THEREFORE, IT IS HEREBY ORDERED AS FOLLOWS: CPN's execution, delivery and performance of the Wheeling Agreement and the Operating Agreement are hereby authorized and approved, effective as of the date of said agreements, to wit, July 20, 1979, subject to the following conditions and

limitations: Either party to the agreement may terminate the agreement as provided for therein. In the event the Wheeling Agreement is renewed beyond July 1, 1982, as provided for therein (and in the event of subsequent renewals) CPN shall promptly report such renewal(s) to the Commission together with any modifications of the wheeling rate or other term or condition of the Agreement. The Commission retains jurisdiction to direct termination of the Wheeling Agreement at any time following expiration of the initial term, July 1, 1982, provided however that no such termination shall be ordered except upon notice and hearing. Proceedings for further hearings in connection with the matter may be instituted by the Commission on its own motion; by CPN; by St. George; or by any other interested party. Nothing in this order shall be construed as approval of any resale electric service agreement which may exist between Utah Power and Light Company and the City of St. George.

DATED at Salt Lake City, Utah, this 9th day of June, 1980.

/s/ Milly O. Bernard, Chairman

(SEAL)

/s/ David R. Irvine, Commissioner

/s/ Brent H. Cameron, Commissioner

Attest:

/s/ David L. Stott, Secretary



Northern Arizona Council of Governments

POST OFFICE BOX 67 • 110 EAST ASPEN STREET • FLAGSTAFF, ARIZONA 86002 • (602) 774-1094

CHRISTOPHER J. BAVASI
EXECUTIVE DIRECTOR

2

June 26, 1980

Mr. David F. Everett
EIS Team Leader,
Allen-Warner Valley Energy System
Bureau of Land Management
Cedar City District Office
1579 North Main Street
Cedar City, Utah 84720

Dear Mr. Everett:

We have reviewed the Environmental Impact Statement which your office has prepared for the proposed Allen-Warner Valley Energy System and wish to offer the following comment:

Alternative #4, which calls for trucking of coal from the Alton coal field to the Warner powerplant, may cause a considerable problem for the people living in Fredonia as the estimated 154 truckloads of coal are moved daily through the town. These heavy trucks can cause safety problems for town residents, especially children. They may also cause unwanted noise, especially if they operate on a 24-hour basis. Deterioration of the street surface may also be experienced. For these reasons, we are opposed to Alternative #4 unless substantial mitigating measures are taken.

Sincerely yours,

C. J. Bavasi
Christopher J. Bavasi
Executive Director

CJB:JSW/dtg

cc: Arizona State Clearinghouse
Town of Fredonia

Northern Arizona Council, Flagstaff, Arizona

Response 2-1

These concerns are recognized in Alternative 3 in the Summary, the Coal Transport System section under Alternative 3 in Chapter 2, and the Alton Coal Fields section under Land Use, Land Use Plans and Controls, Alternative 3 in Chapter 4 of the final EIS.



OFFICE OF

3

Kane County Commission

KANE COUNTY, UTAH 84741

June 24, 1980

Mr. Rob Zundel
Bureau of Land Management
Cedar City, Utah

Dear Mr. Zundel:

In response to your telephone query today, the Commission's position with reference to a coal slurry for the Allen-Warner Valley Project is as follows:

We are opposed to any type of slurry line using water from the Alton-Kanab aquifer for moving the coal;

We will remain opposed until such time as there is an in-depth comprehensive evaluation of the deep hydrology of the area;

We will not oppose a closed system of slurry line using the water that has been ponded in the proximity of the proposed Warner Valley Power Plant.

It is our hope that this information will be of assistance to you in completing the Environmental Assessment that you are presently working on for the Allen-Warner Valley Power Project.

Sincerely yours,

KANE COUNTY COMMISSION

Bob Russell

Bob Russell,
Chairman

Bob Russell, Kane County Commission

Response 3-1

Your comments are noted in the final EIS and will be considered in the decision making process.

BR/J



THE DAMMERON CORP. 151 NORTH MAIN, ST. GEORGE, UTAH 84770 (801) 673-9798

July 15, 1980

Morgan Jensen
District Manager
Bureau of Land Management
P.O. Box 724
Cedar City, Utah 84720

Dear Morgan:

I was encouraged by your DEIS on the Warner Valley Project. With alternate energy technology coming on strong, and for the reasons the report mentioned, I agree the need is not there. Even if it were, the clean air of Zion, Bryce, Pine Valley, and in fact all of Southwestern Utah would be too great a price to pay.

I am also in favor of setting aside as many areas as possible as wilderness and primitive designations. It is the only way to counter balance the rapid growth and development we are experiencing in the southwest.

I hope you know there are many of us who feel the B L M is doing an excellent job managing the public lands and who are totally against the concepts of the "Sagebrush Rebellion."

Sincerely,

A. Brooks Pace
A. Brooks Pace

A. Brooks Pace, St. George, Utah

Response 4-1

Your comments will be considered in the decision making process.

4



CLARK COUNTY HEALTH DISTRICT

P.O. BOX 4426 • 625 SHADOW LANE • LAS VEGAS, NEVADA 89106 • 702-385-1291

July 17, 1980

District Manager
Cedar City District
Bureau of Land Management
P.O. Box 724
Cedar City, Utah 84720

Subject: Allen/Warner Valley Energy System Environmental Impact Statement

Dear Sir:

The Allen Warner Valley EIS describes a proposal to construct a 500 megawatt coal-fired electric generating plant in Warner Valley, Utah, and a 2000 megawatt generating plant in Dry Lake, Nevada (Harry Allen power plant). In addition, five alternatives to this proposal are also analyzed. Three of the alternatives describe smaller power generating facilities; one describes energy conservation; and, one describes no action. The proposal to build the Harry Allen and Warner Valley power plants is being advanced by four companies: Nevada Power Company, Southern Cal Edison, Pacific Gas and Electric and the City of St. George. The initial generating capacity entitlements of the participating entities would be: Nevada Power Company - 285; Southern Cal Edison - 1045; Pacific Gas and Electric - 1045; City of St. George - 125; total 2500 (megawatts).

The Clark County Health District is especially interested in the proposed power plant for Dry Lake, which is approximately 20 miles northeast of downtown Las Vegas. Our concerns involve the following items which will be described in detail:

- 1) Increases in levels of nitrogen oxides.
- 2) Visibility impacts in the Las Vegas Valley and the Valley of Fire.
- 3) Ammonia emissions from the cooling towers serving the power plant boilers.
- 4) Secondary aerosol generation as a result of interaction of ammonia emissions and nitrogen oxide emissions.
- 5) Reliability of air pollution control equipment.

The BLM has done a commendable job in preparing this EIS. It is comprehensive in scope, includes many details and yet is not voluminous.

Continued . . .

CLARK COUNTY HEALTH DISTRICT

District Manager, BLM
July 17, 1980
Page 2

1 Table 43 on Page 4-11 lists the "Estimated air quality Impacts due to emissions from the 2000 megawatt Harry Allen power plant". Included in the table is an estimate for increments to existing levels of several air pollutants. For all pollutants except nitrogen dioxide, the increments are calculated for short term and annual sampling periods. For nitrogen dioxide, the annual period is the only time period addressed. We recommend that an analysis also be performed for a 24 hour time period, and to predict on what frequency the short term increments would affect the Valley of Fire and Las Vegas Valley. Also, will additional NO_x levels intruding into the Las Vegas Valley affect levels of ozone in the Las Vegas Valley or aggravate the Las Vegas Cloud (containing nitrates, which are reaction products of nitrogen oxides)?

2 According to the EIS report, the Harry Allen plant will import approximately 24.5 million gallons per day of effluent from the Clark County Sanitation District's Advance Wastewater Treatment Plant (AWT). At this time the plant is not designed to remove aqueous ammonium from the influent to the AWT and the water being used in the cooling towers may have an ammonium content of approximately 15 milligrams per liter of water. The Health District has recently become concerned with the use of cooling water containing significant amounts of ammonium because of the possibility that ammonia gas is aerated into the atmosphere. Ammonia gas can combine with acid gases, such as nitric acid, to form an aerosol which can degrade visibility. This is being further evaluated by a testing program at the Nevada Power Clark Station in the Las Vegas Valley. We would like the air quality assessment for the Harry Allen power plant to include an evaluation of possible ammonia emissions and impacts.

3 It is our understanding that the Harry Allen power plant will utilize electrostatic precipitators and scrubbing towers in order to comply with emission limits for particulate matter and sulfur dioxide. Although scrubbers and precipitators are being constantly improved, they have not yet achieved a reliability factor of 99%; i.e., functioning properly 99% of the time.

We believe the EIS should evaluate the hours per year that one or more boilers in the power plant is operating and the air pollution equipment may not be functioning properly. This analysis should evaluate the hours per year of visible emissions exceeding 20% opacity and of air quality impacts on SO_2 and particulate matter from equipment not functioning properly.

Clark County Health District, Las Vegas, Nevada

Response 5-1

NO_x concentrations were given for the annual average only because it is the only period covered by the NAAQS. Radian has reported that maximum 1-hour NO_x concentrations in the Las Vegas nonattainment area from the Harry Allen powerplant could be as high as $320 \mu\text{g}/\text{m}^3$, but the frequency of occurrence was not determined. No analysis was performed for NO_x levels in the Valley of Fire State Park.

Regarding additional NO_x levels affecting O_3 levels in the Las Vegas Valley or aggravating the Las Vegas cloud, Radian (1980) investigated the possibility of NO_x emissions from the proposed Harry Allen powerplant causing or contributing to violations of the NAAQS for O_3 in the Las Vegas nonattainment area. As a first step, Radian analyzed the probability of plume transport into the nonattainment area during historical high O_3 episodes. Of the 5 days from 1975 to 1978 with O_3 concentrations greater than the NAAQS, none had northeasterly winds long enough to transport the plume into Las Vegas. Of 9 additional days with high O_3 concentrations, although below the NAAQS, only 1 day had winds which could transport the Harry Allen powerplant plume into Las Vegas. Radian concluded "... it is believed to be very unlikely that the Harry Allen plant could cause or contribute to exceedance of the NAAQS for ozone."

In addition, even if the plume would reach Las Vegas on a day of high O_3 concentrations, it would be probable that the plume would cause reductions rather than increases in O_3 concentrations. Most of the NO_x emitted would be NO , with a much smaller amount of NO_2 . NO would cause reduction of O_3 to bimolecular O_2 by the following reaction: $\text{NO} + \text{O}_3$ equals $\text{NO}_2 + \text{O}_2$ + energy, which is a spontaneous reaction. With energy input, e.g., sunlight, the reverse reaction, forming O_3 can occur, but the forward reaction is dominant, unless a very high ratio of NO_2 to NO exists. Radian concluded that the NO_2 to NO ratio in the Harry Allen powerplant plume would be low (about 1 to 1) when the plume arrived in Las Vegas and that further conversion of NO to NO_2 would decrease O_3 concentrations.

Some studies have shown that powerplant plumes may increase O_3 concentrations when the ratio of non-methane hydrocarbons (NMHC) to NO_x is high, about 8 to 1 or more. The emission ratio of NMHC to NO_x is about 4 to 1 in Clark County (the ratios are based on number of molecules emitted, rather than mass ratios). Because the Harry Allen powerplant would emit far more NO_x than NMHC, the powerplant would decrease the ratio further, and it is unlikely that the NMHC to NO_x ratio would be sufficiently large to enhance O_3 formation. The studies show that when NMHC to NO_x ratios are less than 8 to 1, increasing NO_x concentrations correspond to decreasing O_3 concentrations.

Continued

District Manager, BLM
July 17, 1980
Page 3

We appreciate this opportunity to comment on the draft EIS and hope that the final EIS can satisfactorily address and show a sufficient mitigation of our concerns.

Sincerely,

CLARK COUNTY HEALTH DISTRICT



Michael H. Naylor, P.E.
Director
Air Pollution Control Division

MHN:jse

Response 5-2

The applicants propose chlorination of the cooling water, which they contend will neutralize the aqueous ammonium and prevent ammonia emissions to the atmosphere. As discussed in an air quality meeting September 16, 1980 in Las Vegas with Clark County, the State of Nevada, EPA, BLM, NPC, and others, further studies will be required before State and county permits would be issued.

Response 5-3

The proposed pollution control equipment at the Harry Allen powerplant would have backup capacity in case problems would arise. There would be fly ash control on-line continuously during operation. There would also be reserve scrubber modules into which the flue gasses would be diverted if the primary system should malfunction.

Alton, Utah
July 13, 1980

Bureau of Land Management

Cedar City, Utah

Dear Sir:

I have continually put off writing this letter thinking that it would not do any good, but at this late time I decided to express a few of my thoughts.

To begin with this Power Plant Project is of great importance to Southern Utah as well as other areas...it would build up Southern Utah more than any thing else that has ever taken place here. We need the employment it would create as well as the electricity that we would continue to use more of as time went on.

In regards to the Strip Mining at Alton being unsightly to the Bryce Canyon Tourist I feel is a very minor objection. As fast as the coal is taken out and the earth replaced it could be planted to intermedate wheat grass, which does real well in that area without irrigation, making a great expansion in the cattle industry for the Kane County cattle men that would make more income for them as well as more taxable property for the County. This would cause a much more pleasing sight than the sage brush and scrub trees that dominate this area.

As I understand that the Warner Valley dam would store up 45,000 acre feet of water that could be used by the Washington County farmers which would more than double the agriculture possibilities. With the climate they have to go with that much water it would be worth a lot to this area.

With the controls they have on coal burning plants there is no worry of pollution that would interfere with the Zion Canyon tourists or any plant or animal life any where near the coal burning plant.

In regards to the water being used to slurry the coal to the plant I would advise the farmers and ranchers, to whom it may concern, to measure their water and after the plant was in full operation they find that they are loosing some of their water I'm sure they could be reimbursed for it or resupplied.

We have this large amount of energy laying idle and there has not been one reasonable excuse given why this important project should not go ahead at once.

The environmentalists seem to be against all progress no matter what it is or where it is. I can't see what they or any one else stand to gain by blocking this project. As long as they (the Environmentalists) are allowed to rule our Constitution means nothing to us. Our right to act for our own benefit is gone.

Yours sincerely Ray J. Palmer

Ray J. Palmer, Alton, Utah

Response 6-1

As explained in Appendix 6 (Vegetation, number 2) in the final EIS, revegetation, if successful, would occur within 5 years of the cessation of mining activities in a mined block. Areas could, however, remain barren for a longer period if rehabilitation efforts would be unsuccessful. Refer to the Recreation and Aesthetics section under Alternative 1 in Chapter 4 of the final EIS for the visual effects of the revegetation projects.

Response 6-2

Alternatives 1 and 3 would distribute about 8,000 acre-feet of water for agricultural purposes (see tables 2-3 and 2-10 in the final EIS). This additional water would be used on acreage currently being irrigated.

Response 6-3

As discussed in the Air Quality sections of Chapter 4 of the final EIS, visibility at Zion National Park could be impaired by NO_x emissions, for which there is only limited control.

Response 6-4

Pumping tests will be conducted by UII for a 30-day period to determine the effects of pumping on other wells in the Navajo Sandstone aquifer. These tests will be monitored and evaluated by the State Engineer of the Utah Division of Water Rights prior to any water rights actions.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Cedar City District Office
1579 North Main Street
P.O. Box 724
Cedar City, Utah 84720

IN REPLY REFER TO:

UT-040
1792.219 AWV

November 26, 1979

Dear Interested Party:

Because of your past interest in Nevada Power Company's proposed Allen-Warner Valley energy system, we are again requesting your assistance in preparing the environmental impact statement on this project.

The problem presently facing us is the need to develop a set of specific environmental standards to be used in evaluating the proposed action and the reasonable alternatives. The set of environmental standards is required to provide an objective and publicly responsive basis for determining the environmentally preferred alternative.

We have prepared a tentative set of environmental standards which is enclosed for your review. Would you please examine the material and make any changes or additions you believe are needed. Please return the corrected list of environmental standards to our office in the enclosed envelope by ~~December 14, 1979~~ July 16, 1980.

Thank you for your assistance.

Sincerely,

ACTING District Manager

ALTERNATIVE EVALUATION CRITERIA

To provide a consistent basis for evaluating the environmental benefits and detriments of each alternative (including the proposed action), the following evaluation criteria have been established. The alternative which best meets the evaluation criteria is considered to be the environmentally preferred alternative.

1. Meets the anticipated energy needs of the utility's service areas consistent with the environmental constraints given below.
2. Minimizes disruption of existing land and water uses.
3. Complies with Federal, State, and local land use plans and controls.
4. Preserves important historic, cultural, and natural aspects of our national heritage, including wilderness areas.
5. Promotes population and economic growth in a manner compatible within an area's or community's ability to accommodate the increased growth.
6. Minimizes adverse impacts to air quality values, including visibility, especially within mandatory Class I areas.
7. Minimizes adverse impacts to the quality of surface and underground waters.
8. Avoids adverse impacts to officially listed threatened or endangered species or their habitats.
9. Minimizes adverse effects to existing scenic and aesthetic values.
10. Minimizes disturbances to wetlands and floodplains.
11. Minimizes disruption to existing ecological systems.



Save Energy and You Serve America!

Mr. David F. Everett
Bureau Of Land Management
Cedar City District Office
1579 North Main
P.O. Box 724
Cedar City, Utah 84720

7-19-80

(2)

Dear Mr. Everett:

Subject: Allen-Warner Energy System.

Would like to go on record in favor of the Allen-Warner Energy System. It would be one of the greatest developments that could take place in the area. This area as you know is in very badly need of power, at present we have a praking device installed on the meters and just recently the power company installed a cutout device on our water heater. Last winter the Bloomington area was without power for over twelve (12) hours, not mentioning the numerous one (1) and two (2) hour periods we have been without power. This becomes a serious matter when houses are only equipped for Electric Heating. Maybe We Should Have A Law That No More Houses Be Built In The Areas Where Sufficient Power Cannot Be Provided.

I noticed a photo in Washington County News dated 7-17-80, showing pollution; smoke from the stacks of Moapa Power Plant in Hidden Valley, Nevada. The engineering and design that goes into the modern power plant today do not have these smoke problems. With the up to date modern scrubbers, precipitators and recovery units that are built in the flue gas systems today take care of these unburnt combustibles.

I just completed an assignment as a Start-up Engineer in Boston, Mass., located in the heart of the Medical Area At Brookline Avenue And Francis Streets, the power plant was designed to make efficient use

R.J. Peebles, Bloomington, Utah

Response 7-1

The need for electrical energy is discussed in the revised Purpose and Need of Proposed Project section in Chapter 1 of the final EIS. However, the town of Bloomington is not in the service areas of any of the AWV participants and would not benefit from the generation of electricity from the system.

of fuel oil through heat recovery in the production and distribution of its utilities. Effects on the surrounding environment are minimized through use of sophisticated air emission and noise control design equipment.

The users are: Harvard University Affiliated Hospitals Center, Beth Israel Hospital, Childrens Hospital Medical Center, Joslin Diabetes Foundation, New England Deaconess Hospital, Sidney Farber Cancer Center, Massachusetts College Of Pharmacy And Massachusetts College Of Art.

With three (3) oil fired boilers and two (2) steam turbine generators in service there, I did not see any pollution, furthermore they are in the admist of installing six (6) diesel engine driven generators at 7000 KW each.

I have spent all my life in the construction, start up and operation of power plants. And when the environmentalist start screaming about visibility and how it will hurt the environment in this area if they build a power plant. These same people do not want progress and should go back to the days of horse trading and candles. Without power, places like St. George and Bloomington, would soon become ghost towns.

Yours very truly,

R.J. Peebles

3416 Mulberry Drive,
Bloomington, Utah 84770
Phone: (801) 628-2228.

Response 7-2

For an analysis of possible impacts to air quality, see the Air Quality section under Alternative 1 in Chapter 4 of the final EIS.

July 22, 1980
 M. S. Jensen, Mayor
 BTRM District Office

Gentlemen:

Thank you for the invitation to respond to the Draft Environmental Impact Statement delivered to me in the name of our business, the Rodeway Inn and Sugarloaf Cafe (Cedarburg).

My name is Vern R. Thomas and my wife and I live at 682 E 700 S, St George, Utah 84110. We are the parents of 8 grown children, all married, and living away from home. We both have Masters degrees and have been employed by Dixie College. Our life-time savings have been placed as an investment in the business mentioned above. This business is managed by our oldest son, Steve Thomas.

The portion of the study that has been most neglected by the BTRM, has been the beneficial economic impact of such projects as the Warner Valley project on human beings in this area. The adequacy of water and power for potential growth ^{and development} cannot be overemphasized.

The mayor of St George, Mr.

Vern Thomas, St. George, Utah

Response 8-1

See Chapter 4, Alternative 1, Employment and Income and Tax Base sections under Socioeconomics in the final EIS. The analysis in these sections indicates the potential positive effects of the AWV project in terms of increased employment and income in the area and an expanded tax base.

Gray Larken, stated in a public meeting today that the water and power figures projected by the study as requirements for this area, are out-dated, false, and misleading. The ~~same~~ statements of the mayor were verified by Mr. Rudger McArthur, Secretary of the St George Utility Commission who attended the meeting spoken of above.

As a proponent of Accounting & Economics major I humbly state that in my studies of this matter and a careful perusal of the Draft EIS. I can see no clear-cut presentation or proof of overwhelming damage to the area water supply, or atmosphere, or terrain. I see chiefly the creation of two precious commodities: power, and stored water — a generous supply of which can do only but good and may even provide the consumer a cheaper source of these things.

The impact of the MX program in this area is not yet known, but to not be fulfilled is unpatriotic and unwise. We cannot stop the growth of this area. We can only become better prepared to accommodate the

Response 8-2

The cumulative regional impacts of such projects as MX in combination with the AWV project have not been assessed in the draft EIS due to insufficient data on MX at this point, and because of the uncertainty about the basing mode that the Air Force will ultimately decide upon. The cumulative impacts will be assessed as a part of the MX EIS process.

Advisory
Council On
Historic
Preservation

1522 K Street, NW
Washington, DC 20005

Reply to:

Lake Plaza South, Suite 616
44 Union Boulevard
Lakewood, CO 80228

July 23, 1980

Mr. Morgan Jensen
District Manager
Bureau of Land Management
P. O. Box 724
1579 North Main Street
Cedar City, Utah 84720

Dear Mr. Jensen:

The Council has reviewed your draft environmental statement (DES) for the proposed Allen-Warner Energy Project in California, Nevada, Utah, and Arizona, circulated for comment pursuant to Section 102(2)(C) of the National Environmental Policy Act. We note that the undertaking will affect the Honeymoon Trail, a property included in the National Register of Historic Places as well as numerous other properties potentially eligible for the National Register. While it is indicated that cultural resource surveys of some of the project area have begun, the DES includes an inadequate discussion of cultural resources. It is also noted that appendix 15 contains a letter from the Council and a Memorandum of Understanding between the Bureau of Land Management and the State of California for the Intermountain Power Project rather than the Allen-Warner Energy Project. Circulation of a DES, however, does not fulfill your agency's responsibilities under Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. Sec. 470f, as amended, 90 Stat. 1320).

Prior to the approval of the expenditure of any Federal funds or prior to the granting of any license, permit, or other approval for an undertaking, Federal agencies must afford the Council an opportunity to comment on the effect of the undertaking on properties included in or eligible for inclusion in the National Register in accordance with the Council's regulations, "Protection of Historic and Cultural Properties" (36 CFR Part 800) (copy enclosed). Until these requirements are met, the Council considers the DES incomplete in its treatment of historical, archeological, architectural, and cultural resources. You should obtain the Council's substantive comments through the process outlined in 36 CFR Section 800.9. These comments should then be incorporated into any subsequent documents prepared to meet requirements under the National Environmental Policy Act.

Growth.

I deny Nevada & California a source of power because it may deplete Utah resources, is to say that I should not operate a coal mine south ore and other commodities that come from other states, simply because the process depletes their sources of supply.

The technology is available to supply everyone in this world with their desires. Politics & governments seem usually a hindrance to the process.

Let BLM become a partner to progress and let's go forward with the Warner-Allea projects. Let's remember the people who pay the taxes to support the efforts of the BLM. Add to your final study the "beneficial economic impact" of the projects. This phase is deserving of impartial and comprehensive study!

Thank you and accept my thanks for being able to provide this input to the study.

Sincerely

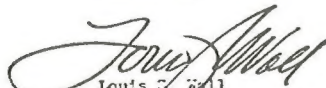
Norm R. Thomas

Thomas

Page 2
Mr. Morgan Jensen
Hurricane Canal, Et. Al.
July 23, 1980

Ms. Marjorie Ingle may be contacted at (303) 234-4946, an FTS number, for further assistance.

Sincerely,


Louis J. Hall
Chief, Western Division
of Project Review

Enclosure

Advisory Council on Historic Preservation, Lakewood, Colorado

Response 9-1

In compliance with 36 CFR, Part 800, BLM has developed Cultural Resource Memorandums of Understanding for the AWV EIS with the States of Arizona, California, Nevada, and Utah (Appendix 16). The Memorandum of Understanding with the State of California for the AWV EIS will replace the Intermountain Power Project Memorandum which was previously included in Appendix 16.

BLM agrees that circulation of a draft and final EIS does not fulfill the agencies' responsibilities under Section 106 of the National Historic Preservation Act. Prior to approval of expenditures or the granting of licenses or permits, BLM will provide the Advisory Council on Historic Preservation an opportunity to comment on the effect of the undertaking on properties included in or eligible for inclusion in the National Register as per the Council's resolutions (36 CFR Part 800) and in accordance with the AWV action plan for compliance with Advisory Council procedures for protection of historic and cultural resources. The action plan is included in Appendix 9.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

ROCKY MOUNTAIN REGION
10435 EAST 25th AVENUE
AURORA, COLORADO 80010



July 24, 1980

District Manager
Cedar City District
Bureau of Land Management
P.O. Box 724
Cedar City, Utah 84720

Dear Sir:

We have reviewed your draft environmental impact statement (DEIS) on the Utah section of the proposed Allen-Warner Valley Energy System and do not anticipate any impact on aviation or its activities. However, this review does not relieve the energy system proponents of their responsibility to file FAA Form 7460-1, Notice of Proposed Construction or alteration, before beginning project construction.

Our Los Angeles Regional Office will comment on the Arizona, California and Nevada portions of the DEIS.

Please change our address from:


Rocky Mountain Region FAA
P.O. Box 7213
Denver, Colorado 80207

to:

Director, Rocky Mountain Region
Federal Aviation Administration
10455 E. 25th Avenue
Aurora, Colorado 80010

Thank you for the opportunity to review the DEIS on your proposed project.

Sincerely,


FRED H. JAEGER, JR.
Chief, Planning and Appraisal Staff

Federal Aviation Administration

Response 10-1

The fact that the energy system proponents must comply with FAA regulations is included in Appendix 5, Actions Required to Authorize the Applicants' Proposed Project and Reasonable Alternatives of the final EIS.

11



SPLED-E

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
P. O. BOX 2711
LOS ANGELES, CALIFORNIA 90083

29 July 1980

District Manager
United States Department of the Interior
Cedar City District
Bureau of Land Management
P. O. Box 724
Cedar City, Utah 84720

Dear Sir:

This is in response to a letter from your office dated 23 June 1980 which requested review and comments on the Draft Environmental Impact Statement (DEIS) for the proposed Allen-Warner Valley Energy System in Utah, Arizona, Nevada and California.

The proposed plan does not conflict with existing or authorized plans of the Corps of Engineers, Los Angeles District. We have no comments on the DEIR. We suggest that you contact our Sacramento District Office for possible additional review since a large part of the proposed project falls within its geographical confines.

Thank you for the opportunity to review and comment on this document.

Sincerely,

Robert J. Hall
NORMAN ARNO
Chief, Engineering Division

Army Corp of Engineers

Response 11-1

The Sacramento District Army Corps of Engineers has been contacted and their comments are incorporated into the revised Wetlands and Floodplains section, Water Resources, under Alternative 1 of Chapter 4 in the final EIS.

12

G. D. MacDonald, III

—Registered Professional Engineer—

281 South 800 West
Cedar City, Utah 84720
Telephone 386-3929

August 1, 1980

District Manager
Bureau of Land Management Office
Cedar City District Office
P. O. Box 724
Cedar City, Utah 84720

Dear Sir: Allen - Warner Valley Power Project

My comments on the subject project are as follows:

Most of the coal in the Alton coal field associated with this project can and should be mined by open pit strip mining methods. This provides for maximum recovery of this valuable material.

I am categorically opposed to any attempt to slurry this coal from Alton to Warner Valley in Washington County, Utah. Any water in this area should be used locally.

You have on file in your Kanab Office a copy of my letter dated February 2, 1980 to the B. L. M. Office in Denver, Colorado relative to this subject and Filing No. 2555, expressing more in detail my feelings on this project.

Sincerely yours,

G. D. MacDonald, III

G.D. McDonald, Cedar City, Utah

Response 12-1

Your view on this matter will be considered in the decision making process.

Response 12-2

Refer to your letter dated February 2, 1980 and Responses 12-3 through 12-5 below.

G. D. MacDonald, III

--Registered Professional Engineer--

281 South 800 West
Cedar City, Utah 84720
Telephone 586-1929
February 2, 1980

United States Department of the Interior
Office of Surface Mining - Regional Director
Post Office Building Room 270
Denver, Colorado 80202

Dear Sir:

FILING #2555

Thank you for your letter dated January 16, 1980 presenting the problems involved with possible surface coal mining activities in the Alton-Bryce Canyon area. I appreciate the opportunity to participate in the petition process. Immediately to the west of the proposed mining area, I and my immediate family own land in Sections 16, 17, 20, 21, 28, 29, and 33, T-39-S, R-6-W. I would comment on the petition as follows:

Mining: I was born and raised in Kane County and am very familiar with the coal lands involved. Also, my professional experience has included some 30 years in open pit mining operations. The ground proposed for surface coal mining is very adaptable to that type operation. Surface mining should be used wherever possible in order to secure maximum coal recovery. I do not feel that such mining will detract from or adversely affect the Dixie National Forest and Bryce Canyon National Park. Reasonable reclamation efforts and a little time after mining will provide better land for farming, livestock and wildlife. The appearance of the terrain after this is done would be an improvement over what exists at the present time.

Water: I have water rights in the headwaters of the Kanab Creek drainage and the East Fork of the Virgin River. These waters are from springs that surface in most cases above the present elevation of the coal fields. I doubt that surface mining activities would affect these springs, but sustained pumping of large volumes of water from deep wells poses a real threat to underground water channels and aquifers that may feed these springs. The magnitude of any damage in this respect cannot be accurately forecast nor estimated.

Coal Haul: The large volume of water required for a coal slurry pump line is solely for the convenience and benefit of the Warner Valley power plant near St. George, Utah. It seems inevitable that the massive tonnage of coal in Kane County will be hauled from the mines by railroad. The first leg of such a railroad could be constructed to haul the coal for this power plant. Coal burning locomotives could be used. In any event, a slurry pump line is not a must in mining or moving the coal. I intend to vigorously protest any drilling and pumping of wells for this purpose.

I will appreciate being kept informed in this regard.

Sincerely yours,

cc- B.L.H. Kanab Resource Area Headquarters

Response 12-3

The potential impacts to Bryce Canyon National Park are addressed in the Alton Coal Lease Area section, Recreation and Aesthetics, Chapter 4 of the final EIS.

Response 12-4

While exact impacts to water resources that could result from the proposed project in the Alton coal lease area are unknown, potential impacts that could result are addressed in the Ground Water Pumping for Coal Slurry section under Alternative 1 in Chapter 4 of the final EIS.

Response 12-5

Several studies, including the Kaiparowits Coal Development and Transportation Study (USDI, 1980) have been completed which evaluate coal transportation from the Alton lease area. These studies are referenced in the final EIS in the Scoping Process section of Chapter 2.

D. Spencer Esplin
232 South 500 East
St. George, Utah 84770
7-31-80

Dear Sir.

I have lived in St. George Utah for 50 years, I have seen times when water was limited and in short supply even for washing. I have seen times when power was not to plentiful. The growth and development of our area depends on our water and power supply.

I feel we should also protect our environment and the ecology of our area, but somewhere there has to be a happy medium or there can be no development or progress. I feel the Warner valley project is a must.

The project would also improve plant and animal life in the area because of the water it would supply on a continuing basis. I could go on and

D. Spencer Esplin
232 South 500 East
St. George, Utah 84770

one giving reason why we need this project but mainly I want to be heard in favor of the project and go on record as saying the Warner Valley Project is a must.

Sincerely
D. Spencer Esplin

Spencer Esplin, St. George, Utah

Response 13-1

The project as proposed would increase water in the Warner Valley area; however, the diversions necessary to operate the Warner Valley reservoir would reduce stream flows in the Virgin River and jeopardize the continued existence of the roundfin minnow. Waterfowl and wildlife species living in the immediate Warner Valley area would primarily benefit due to increased surface water.

Adverse impacts to the dwarf bearclaw poppy (*Arctomecon humilis*; an endangered plant species) would occur as a result of water seepage through the geologic formation in the Warner Ridge, resulting in more moisture in this habitat.

2 August 1980

U. S. Department of Interior
Bureau of Land Management
Cedar City District Office
P.O.Box 724, Cedar City, Utah 84720

Attention: Mr. David F. Everett, EIS Team Leader
Allen - Warner Valley Energy System

Dear Mr. Everett:

The following comments are respectfully submitted to be included in the final environmental impact statement to be issued on the Allen-Warner Valley Energy System.

1) Page 3-2, Mineral Development

At the end of the fifth sentence in this paragraph, the following should be added.
Public Land Order #4036 was issued in the 1960's for the U.S. Bureau of Reclamation's Dixie Project which withdrew several thousand acres of Bureau of Land Management property located in the Warner Valley area from further mineral prospecting and mining exploration and development activities. FLO #4036 has not been rescinded to date, although the Dixie Project was discontinued by the Bureau of Reclamation in 1973. This FLO has restricted all mining development and exploration activities on the Warner Valley Federal and State lands. A letter request was issued to the BLM (Jack D. Sim letter of 17 Dec. 1977) requesting prompt action to rescind this FLO, but no action was taken in response to this letter.

2) Page 3-2, Mineral Development

Sentence six should be deleted in its entirety and the following sentences inserted.
Other minerals of economic value existing on the Warner Valley Utah State Lease are: Nickel, Iron, Tungsten, Aluminum, Manganese, Titanium, Chromium, Cobalt and Gold. These metals, other than the Gold and Iron are strategic minerals considered critical for the U.S. Aerospace Industry. Such critical materials are 90 to 100% imported due to shortages existing in the United States (Donald E. Fink - Availability of Strategic Materials - Aviation Week and Space Technology - 5 May 1980). Growing debate over U.S. dependence on imported strategic materials for its aerospace industry is focusing attention on the need to enhance the national defense stockpile and to stimulate development of alternate domestic supplies where they are known to exist, such as in Warner Valley. Of 10 critical materials listed in the publication cited, 7 are known to exist on the Warner Valley Utah State Lease property.

Page 2.

2 August 1980

3) Page 4-3, Minerals Development

At the end of sentence three, add the following:
FLO #4036 was issued in the 1960's which withdrew these BLM lands from further mineral prospecting, exploration and mining development activities.

Yours Sincerely,

Jack D. Sim

Jack D. Sim
271 So. 1000 E.
Bountiful, Utah 84010
Phone 801 292 0302

Jack D. Sim, Bountiful, Utah

Response 14-1

BLM is processing the revocation request from Jack D. Sim (December 17, 1977). Final action concerning the revocation of the withdrawal would come from the Office of the Secretary of the Interior.

Response 14-2

Nickel, iron, tungsten, etc. are not known to occur in economic quantities in Warner Valley. However, prior to construction of the Warner Valley water project, a detailed evaluation of the affected land would be necessary to determine its mineral value.

Response 14-3

Public Land Order 4036, a first form reclamation withdrawal issued June 6, 1966, closed 28,787.03 acres to mineral entry and location as of the effective date of the withdrawal. The withdrawal did not affect valid existing rights established prior to its effective date. Therefore, mining activities, including prospecting, exploration, and development on the withdrawn lands could continue on valid mining claims, located prior to June 6, 1966. The Washington County Recorder's Office has on file more than 400 location notices for mining claims located in the Warner Valley area prior to 1966. However, exploration activities in the Warner Valley area have been minor. This suggests that the mineral values rather than the withdrawal had the dominant effect on mining activities on the subject lands.

Box 219
Hurricane Utah
August 2 1980

District Manager of B.L.M.

Dear Manager:

Warner Plant Development would be a destructive plan for Utah. Wyoming Bridger Plant has proved this by destroying thousands of acres of graze and vegetation land and food and water resource for animals. Bridger Plant has about 25 more years to operate and in 10 years destroyed Wyoming land. Why does Utah have to take the pollution and destruction of our resources when use of existing California Nuclear Plants that give off no air pollution, when allowed to run indefinitely.

The majority of people in California seem to be allowing a destruction of thousands of acres by this minority Cult group by keeping their California Nuclear Plant from generating all their power needs. Why allowed Utah by a minority to destroy our resources and pollution is beyond understanding.

Sincerely,

Eva Mae Post

Eva Mae Post

Eva Mae Post, Hurricane, Utah

Response 15-1

Your concerns are recognized and will be considered in the decision process. Discussion relating to your comment is located in the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS.

R. W. HUBBARD

Box 216, Kanab, Utah 84741 U.S.A.
Telephone: (801) 644-5300

August 4, 1980

District Manager
Cedar City District
Bureau of Land Management
P.O. Box 724
Cedar City, Utah 84720

Gentlemen:

After studying the draft EIS and attending the recent meeting held in Kanab on the Allen-Warner Valley Energy System, it is apparent to me that the City of St. George has not shown that their water or power needs are sufficient to justify the Warner Valley power plant. This would mean eliminating alternates 1, 2 and 3 from consideration.

My reasons are as follows:

Water Usage-

Table #2-1 shows 22.69 acre feet of water pumped from Alton through both slurry lines per day. Based on a 360 day year this would amount to 8168 acre feet per year. Table #2-5 indicates 19.23 acre feet of water needed for only the Allen slurry line. On an annual (360 days) basis this would amount to 6562 acre feet.

The 1606 acre feet difference between the two represents the slurry water delivered to the Warner Valley project. This equates to service for 4480 people. (800 gallons per day with 2.5 people per hookup.)

Table 22 shows a current Washington County population of 21,384 and the estimate that by the conclusion of the project in 2020 this will have grown to 48,776. This is still 24,329 short of the estimated 73,105 people (EIS pg 1-3) the Warner Valley water project could serve at its full potential of 26,200 acre feet.

These facts show that not only will the slurry water not be needed but there will be an excess during the project of six times the amount of the slurry. The operators of the Warner Valley power plant (assuming it is built) could easily withdraw the 1606 acre feet from the Virgin River diversion without affecting any of the other water commitments.

The Allen Plant will receive 6562 acre feet from the Alton Navajo formation through the 23" slurry line. This represents 18% of the water needed to operate the plant. As indicated in alternate 4 the full 31,000,000 gallons per day is available from the Clark County APT plant. This would therefore negate the need to receive any water from Alton.

R. W. HUBBARD

Box 216, Kanab, Utah 84741 U.S.A.
Telephone: (801) 644-5300

(2)

The citizens of St. George would do well to practice water conservation. A common sight in the city is water running down the gutters as people overirrigate their yards and gardens watering lawns every second or third day rather than every day as is now the practice would cut consumption considerably. The availability of unlimited water would even further encourage wastefulness.

Electric Power Usage

If there is no need for the slurry water there is even less need for the Warner Valley power plant. A number of very good alternatives to building the plant are available.

(1) Continue to buy power from UP&L or join the Southwest Federation. It is inconceivable to believe, as Mr. McArthur the St. George Utilities Director states, that The Utah Public Service Commission would not approve long term contracts between the city and UP&L. This is particularly questionable during this time when UP&L is desperately trying to buy the California Pacific distribution system in Southern Utah. It would be a simple matter for UP&L to run C&P-Pac lines from Fredonia, Ariz. or Cedar City to St. George.

It was recently announced that UP&L had purchased 25% of the IPP output which will be available in 1986. This would be when the Warner Valley plant is scheduled to come on stream. The IPP power should be more than adequate to service St. George and surrounding communities.

(2) As mentioned in the EIS, power can be obtained directly from the IPP. This would be particularly desirable if the main transmission lines ran near St. George on their way to California.

(3) If alternate 4 is selected and the Allen plant is built then, with some rearranging of power distribution, St. George could obtain power from NPL's Reid Gardner plant located at Glendale, Nev. The distance between the two locations is only 50 miles.

(4) St. George has almost 350 days per year with sufficient sunshine to heat domestic hot water. Since domestic hot water accounts for 20 to 30 percent of the average electric bill, considerable savings in power could be had with relatively simple installation. Financial assistance could be provided by the city to supplement the existing state and federal tax write offs.

General Comments

The 1980 peak power consumption by St. George and

R.W. Hubbard, Kanab, Utah

Response 16-1

The figures used in your analysis have been revised as shown in table 6 of Appendix 11 in the final EIS. The ground water that would be pumped from the Alton area would have the primary purpose of transporting the coal to the proposed powerplants. It would be used secondarily for cooling purposes. However, this water is not essential for cooling purposes since the Warner Valley water project and the Las Vegas AWT can supply all cooling water required. At this time, the feasibility of a coal slurry water return system is unknown.

Response 16-2

In reference to points (1) and (2), alternatives of power allocation for the city of St. George are discussed in the Purpose and Need of Proposed Project section in Chapter 1 and under Alternative 6 in Chapter 4 of the final EIS.

In reference to point (3), power redistribution may be feasible, however, all of the capacity now generated by the Reid Gardner powerplant as well as that to be generated by Unit Number 4 (under construction) has been allocated.

In reference to (4), refer to the discussion of Alternative 5 (Energy Conservation and the Development of Alternative Resources) in Chapters 2, 3, and 4 in the final EIS.

R. W. HUBBARD

Box 216, Kanab, Utah 84741 U.S.A.
Telephone: (801) 644-5300

(3)

surrounding communities was 32 MW. By 2000 it is estimated to be 48 MW. Assuming the same rate of growth to the end of the project in 2020 the peak power needs would be 72 MW. This is barely half of St. Georges' share of the Warner Valley plant. After 40 years this would still be only 14% of the 500 MW plant and 28% of the 250MW plant.

This growth, incidently, about equals the savings available if alternate 5 is chosen. Because St. George has had cheap power for so long the decision to require conservation will be difficult politically.

Operating a large power plant successfully requires skilled personnel. A small municipality does not have access to the caliber of people required as would UP&L or IPP. As a result there is a greater chance the plant would be operated at less than efficient levels, be unsafe and inadvertent stack emissions be more frequent.

Unquestionably the main reason for the Warner Valley plant is to sell power to the other participating utilities. This would provide St. George with a revenue producing facility which could be used as collateral for the 40 million dollar revenue bond to be sold to build the Virgin River Diversion project. This hardly seems justification for damaging the environment in two National Parks and depriving four cities in Western Kane County of their water supply.

Please check Table 2-12. It appears the figures are for a 4000 MW plant.

Sincerely,

R. W. Hubbard

Response 16-3

Your comment is discussed in the Impacts of Major Concern section under Alternative 5 in Chapter 4 of the final EIS.

Response 16-4

The Warner Valley powerplant would be operated by NPC, which has considerable experience in operating this type of plant.

Response 16-5

Two separate coal sources (southwestern Wyoming and central Utah) are considered for use in the 2,000-MW Harry Allen plant in table 2-12. The table has been revised in the final EIS to clarify the two possible coal sources.

TO	BUREAU OF LAND Mgmt	DATE	8/4/80
SUBJECT	EIS		

SIRS:

AS A CITIZEN OF THE UNITED STATES, BUT NOT IN UTAH, I ASK YOU TO CONSIDER ALTERNATE PROPOSAL NUMBER 5. IT'S ABOUT TIME WE AMERICANS WITH POWER TO CHANGE THINGS FOR THE BETTER, DO SO. WHY STICK WITH MW POWER PLANTS, COAL OR NUCLEAR, WHEN WE KNOW THEY ARE NOT THE BEST WAYS TO GET ENERGY? THERE ARE LOTS OF CLEAN AND CHEAPER WAYS TO MAKE IT WORK FOR US. PLEASE THINK ABOUT IT YOU ASKED FOR A COMMENT, HERE IS ONE. THANK YOU

FROM



JOHN S. MAZANEC
DENVER, COLORADO

John S. Mazanec, Denver, Colorado

Response 17-1

Your views will be considered in the decision making process.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

18

WESTERN REGION
P O BOX 92007, WORLDWAY POSTAL CENTER
LOS ANGELES, CALIFORNIA 90009



August 5, 1980

Mr. M.S. Jensen,
District Manager
Bureau of Land Management
Cedar City District Office
1579 North Main
P.O. Box 724
Cedar City, Utah 84720

Dear Mr Jensen:

The Federal Aviation Administration, Western Regional Office has completed the review of the Draft Environmental Impact Statement (EIS) for the Allen-Warner Valley Energy System.

Our only comment at this time is that any new construction or alterations to existing structures meeting notice requirements under Federal Aviation Regulation Part 77 will require filing of FAA Form 7460-1 prior to such construction.

Thank you for the opportunity to review and comment on the Draft (EIS).

Roy W. Mink
ROYAL W. MINK
Regional Planning and
Appraisal Officer

Federal Aviation Administration

Response 18-1

This concern is addressed in Response 10-1.

August 7, 1980

District Manager
Bureau of Land Management
P.O. Box 724
Cedar City, Utah 84720

Re: AWW-EIS

Gentlemen:

I wish to take this opportunity to become a part of the record since other commitments made it impossible to attend the St. George Hearing.

I am concerned about the inaccurate statements in the Draft concerning Washington County/St. George population and power needs. I think both are grossly misrepresented.

I have another complaint which I have voiced several times, and the longer the thing drags on the more my contention is proved. Government agencies deliberately bait the conservationist sector of the public by making very prominent in press releases and studies the fact that the coal field is near Bryce Canyon National Park. (see press release attached) This, of course, agitates these groups into action and I think that there are factions in Government who want this.

I am very familiar with the area in question. I was logging superintendent for a timber company which logged right up the the West boundary of Bryce Canyon National Park in the early 1960's. In my two years near the park boundary, I did not see one (1) person, tourist or official, on the park boundary.

People do not come to Bryce Canyon to look off toward Bald Knoll or the coal mine area. I would challenge the Park Service, the BLM, or any other agency to give me the names of 12 persons who looked over the Alton Coal field area from the boundaries of Bryce Canyon Park prior to 1978 when government press releases began to mention that the coal field is near the park.

Even since then, (1978) I think that any list of persons looking off Yovenipa Point (your spelling) are predominately opponents of AWW.

Basic to the question is "where is the park boundary?" The reason the park visitors do not look on the Alton Coal Fields is that park boundaries were created to provide a buffer between park areas of significance

page 2

and the outside world. Now the environmental groups want the boundaries to include all of Southern Utah - lock up the resources forever and save all the area for those affluent to come and back-pack around the area. This is certainly not consistent with the Multiple Use Concept "best use for the most people".

Why should we sit in the United States in an energy crisis situation with huge energy deposits and stop every effort to utilize those resources. Certainly we have the technology to use the resources and enjoy the beauty at the same time.

Sincerely,

Russell M. Wilson
Russell M. Wilson
176 East 600 South
St. George, Utah 84770

cc: Senator Jake Garn

Russell M. Wilson, St. George, Utah

Response 19-1

Population figures for the project area have been updated and are included in Appendix 11 of the final EIS. These figures are based on the U.S. Bureau of Census "Preliminary 1980 Census Figures."

The electrical energy needs have been adjusted based on these population figures and are discussed in the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS.

Response 19-2

Yovimpa Point is the only place in southern Utah where the vista includes the Kaiparowits Plateau, Navajo Mountain, the Kaibab Plateau, the Coral Pink Sand Dunes, Kanab Canyon, and the Grand Staircase. Approximately 300,000 people a year visit Yovimpa Point to view these scenic attractions.



SCOTT M. MATHESON
GOVERNOR



STATE OF UTAH
DEPARTMENT OF COMMUNITY AND
ECONOMIC DEVELOPMENT

Division of
State History
(UTAH STATE HISTORICAL SOCIETY)

MELVIN T. SMITH, DIRECTOR
307 WEST 2ND SOUTH
SALT LAKE CITY, UTAH 84101
TELEPHONE 801/533-5755

July 30, 1980

Mr. Morgan Jensen
District Manager
Bureau of Land Management
P. O. Box 724
Cedar City, Utah 84720

RE: Allen Warner Valley Energy System, Draft Environmental
Impact Statement

Dear Mr. Jensen:

In response to your request for review and in accordance with
your responsibility as outlined in 36 CFR 800.4 we are happy to
consult with you concerning your project.

The staff of the Utah State Historic Preservation Officer has
received for comment and review the draft impact statement on
the Allen Warner Energy System. The Preservation Office wishes
to offer some specific as well as general comments.

1. In table 49, page 4-88, there is a description of
projects unavoidable impacts. Only the Honeymoon Trail
is mentioned. It is of concern that the Dominguez-
Escalante Trail also will be impacted by the development
of the liquid waste disposal system for the plant.
2. In the affected environment statement, page 3-19, the
BLM indicates that inventories are not yet finished for
most areas. What kind of survey is going to be done in
these areas, and will a professional historian or
architect be involved in the surveys?
3. On page 3-19 also, the BLM indicates that "A series of
archeological and historic inventories were performed in
conjunction with the development of coal resources in
Central Utah, final environmental impact statement", and
then proceeds to describe the archeological inventories.
The archeological and historical inventories that were
also completed during this project appear to this office
to be inadequate.

4. Page 3-21, the BLM reports that the Slurry Pipeline
passes within a quarter mile of Fort Pierce. What is
the nature of this pipeline, is it buried or above
ground? This information would be necessary to
determine adverse impact.

5. The fifth and last specific comment is that our agency
generally agrees with the opinion of the Advisory
Council as issued on July 23, 1980, that the draft
environmental impact statement includes an inadequate
discussion of cultural resources generally.

6. Generally our staff is particularly concerned that no real
attention has been given to the history beyond superficial
review of the trails, Fort Pierce, and the Hurricane Canal.

7. Finally, while it appears that the Hurricane Canal will be
adversely effected, there is no discussion of alternatives to
the adverse effect.

In the opinion of this office, the draft environmental impact
statement concerning cultural resource management is inadequate.

If you have any questions or concerns, please contact Wilson G.
Martin, Preservation Development Coordinator, 533-6017, or
James L. Dykman, Compliance Administrator, 533-6000, Utah State
Historical Society, 307 West 200 South, Salt Lake City, Utah
84101.

Sincerely,

Melvin T. Smith
Director and
State Historic Preservation Officer

JLD:jr:B340WA

cc: Lou Wall, Chief, Western Division of Project Review,
Advisory Council, Lake Plaza South, Suite 616, 44 Union
Blvd., Lakewood, CO 80228

August 5, 1980

Division of State History, Salt Lake City, Utah

Response 20-1

The Dominguez-Escalante Trail would not be impacted because the Warner Valley powerplant is not a component of Alternative 2.

Response 20-2

Refer to Appendix 4, Cultural Resources, Item 2 and Appendix 6, Cultural Resources, Item 2 in the final EIS for the types of inventories that will be conducted and the personnel involved.

Response 20-3

The archaeological and historic inventories were done in conjunction with the USGS Development of Coal Resources in Central Utah (1979) final EIS and are only summarized in the AWW final EIS.

Response 20-4

Two pipelines would be required to transport coal in slurry form from the coal preparation plant to the two powerplants. A 73-mile long, 12-inch diameter pipeline would deliver coal to the Warner Valley powerplant and a 183-mile long, 22-inch diameter pipeline would deliver coal to the Harry Allen powerplant. Both pipes would be buried approximately 3 feet deep; where the pipelines would run adjacent they would be placed in the same right of way. Refer to Appendix 6 in the final EIS for additional information concerning the coal slurry pipeline.

Response 20-5

Your concern is addressed in Response 9-1.

Response 20-6

An indepth history of these areas would provide informational background on the site but would not provide any additional analytical base. Section 1500.4 of the Council on Environmental Quality Rules and Regulations states that agencies shall reduce excessive paperwork by reducing the length of EISs and preparing analytical rather than encyclopedic EISs. For this reason, additional historical information is not added to the text.

Response 20-7

Alternatives to the adverse impact on the Hurricane Diversion are provided by Alternatives 2 and 4, which do not propose the Warner Valley water project and associated water diversion structure. Adverse impacts to the Hurricane Diversion would not occur in these alternatives.

Morgan Jensen
District manager
BLM
P.O. Box 724
1579 N. Main St.
Cedar City, UT 84720

Dear Sir,

I'd like to express my complete opposition to the proposed Alton Mine. The strip mine, which will only be 2 1/2 miles from Bryce Canyon's Yovimpa Point, would adversely affect the park. The superb air quality would lessen. The blasting at the mine could possibly harm the fragile formations in Bryce; not to mention the harm done to the solitude of the park. The view from Yovimpa point would be totally ruined. At least for me it would be and, I'm sure I speak for many people on this point.

I've visited Bryce Canyon many times and after leaving I've always wanted to return. It's not just the spectacular geology of the park which lures me, it's also the long unobstructed views and the clean, invigorating air. I feel that the future generations of Americans should see Bryce Canyon as I have seen it; without the compromise on Bryce's quality that the Alton Mine represents.

Of course we need energy but I hope you'll take into account what's at stake if an Alton mine is developed. So please consider all alternatives. I feel that declaring the site unfit for a strip mine due to the many environmentally hazardous factors evolving from it is the most prudent choice.

Thankyou,
Steen Smith
Steen Smith
12110 S.E. 96th Pl.
Renton, WA 98055

Steen Smith, Renton, Washington

Response 21-1

Mining operations at the Alton coal lease area would occur within 4 to 6 miles of Bryce Canyon National Park. Preliminary studies indicate that blasting at the mine would have no effect on the geological formations within the park. These same studies, however, indicate that blasting operations would be heard throughout the park. See Chapter 4, Alternative 1, Recreation and Aesthetics, Alton Coal Lease Area section of the final EIS for additional information concerning blasting, solitude, and the view from Yovimpa Point. Refer to the Air Quality section under Alternative 1 of Chapter 4 in the final EIS regarding air quality.

COMMENTS OF FRIENDS OF THE EARTH
ON THE BUREAU OF LAND MANAGEMENT'S
DRAFT ENVIRONMENTAL IMPACT STATEMENT ON THE
ALLEN-WARNER VALLEY ENERGY SYSTEM

Prepared By

Ronald Rudolph
Energy Coordinator
August 1, 1980

GENERAL COMMENTS

The preparation of an environmental impact statement is to insure that the policies and goals of the National Environmental Policy Act are an integral part of the federal decision-making process. Impact statements are required to provide a

full and fair discussion of environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would minimize adverse impacts or enhance the quality of the human environment.¹

The BLM EIS team labored long and hard to assemble an impressive amount of material on a very complex energy project. The EIS is well written and often informative in many areas. In particular, the EIS team presented an excellent analysis of the Warner Valley water project and did the best evaluation of energy conservation and other energy alternatives to the project that we have ever seen in an EIS.

However, we must be very critical of this impact statement. It is incomplete and inadequate. Its most important deficiency is the lack of crucial data which makes it impossible to understand fully the environmental consequences of the proposed project and of the alternatives to it.

Missing from or incompletely presented in the EIS are impacts on the air quality, geologic resources and aesthetic qualities of Bryce Canyon National Park, the possible extinction of endangered plant and animal species by the Warner Valley

¹40 C.F.R. §1502.1

water project, possible reductions in water supplies due to mining activities and pumping of ground water for the coal slurry pipeline, and the potential degradation of ground water and surface water from ground water pumping.

The cumulative data gaps and unresolved issues precludes a comparison of the project to the alternatives considered in the draft and makes an intelligent choice among them impossible. This flaw strikes a stake through the very "heart" of the EIS.² It also compromises one of the principle purposes of the EIS -- to determine whether or not alternatives considered in it and decisions based on it will achieve the policy goals of NEPA.³

By far the greatest weakness of the EIS is the cursory treatment given the Alton mine. This is not the fault of the EIS team. BLM decided to limit deliberately the scope of the EIS and set arbitrary deadlines for its completion.

The decision to limit the analysis in the EIS followed closely on the heels of Interior's designation of the Allen-Warner Valley project as a "critical energy facility."⁴

AWV was included on the critical energy facilities list for

²40 C.F.R. §1502.14

³40 C.F.R. §1502.2(d)

⁴The "Critical Energy Facility Program" was established in April, 1979 by Executive Order 12129. The Department of the Interior designated Allen-Warner Valley a critical energy facility on May 21, 1979 in response to a request for designations by the Office of Management and Budget.

Friends of the Earth, San Francisco, California

Response 22-1

Data from the OSM/EPA air quality and visual intrusion study, the NPS/OSM blasting study, and the USGS/State of Utah report, "Ground Water Conditions in the Upper Virgin River and Kanab Creek Basing Area, Utah, With Emphasis on the Navajo Sandstone" is either incorporated into the final EIS directly or by reference from the OSM Southern Utah Petition Evaluation Document (USDI, 1980). Data from the USFWS biological opinion is incorporated directly into the final EIS. When data was incomplete or unavailable, a worst-case analysis was performed. Chapter 4 of the final EIS contains a discussion of impacts that would occur as a result of the implementation of Alternative 1. A comparison of impacts that would result from the various alternatives is included in table 2-19 of the final EIS.

reasons that remain obscure. There was no documentation presented at the time (or since) to show the project met the criteria of the national critical energy facility program.⁵

Shortly after ANV was put on the list, the Director of the BLM advised the BLM Utah State Office that the project "is of the utmost importance to the Secretary" and despite "the problems you face concerning manpower... the project must be done" on schedule.⁶ This decision seriously compromised the NEPA process.

The major decision limiting the analysis in the EIS was to not undertake a new study of the Alton mine. Instead, BLM chose to use the widely criticized Alton evaluation contained in the U.S. Geological Survey's environmental statement, the "Development of Coal Resources in Southern Utah (SUES)."

To its credit, the Utah BLM office recognized that the Alton mine, the most controversial and potentially destructive component of the ANV system, deserved a fresh examination. It advised it was "questionable" to rely on the SUES and that "without an acceptable analysis of the proposed Alton coal development there may be no real basis for comparison" among alternatives.⁷

⁵ Friends of the Earth submitted a Freedom of Information Act request in August, 1979 to discover what justification the Department used for designating ANV a critical energy facility. Our response, received in October, consisted of a two page letter from the Under Secretary, a few descriptive paragraphs about the project and two sentences from an article in National Parks and Conservation Association Magazine. There was no analysis to show the project could meet the criteria established by ONH.

⁶ Memo from Director, Bureau of Land Management to State Director, June 13, 1979.

⁷ Memo from Utah State Director to BLM Director, July 5, 1979.

There was and still is general agreement that the SUES's evaluation of the Alton surface mine was less than adequate.* EPA judged it as "seriously deficient in informational content."⁸ The Director of the Office of Surface Mining and Enforcement and the Assistant Secretary of the Interior for Energy and Minerals commented "we do not believe it is sufficient."⁹ Ironically, at the insistence of the National Park Service, the SUES contained the following disclaimer:

this site specific FES (final environmental statement) for the proposed Alton mine does not fully analyze the potential visual impacts that surface mining in the Alton coal field would have on Bryce Canyon National Park.¹⁰

The extensive criticism and the express limitations of the SUES were ignored. The BLM Director unilaterally declared that the Alton assessment "adequately identified the major impacts resulting from the Alton strip mine."¹¹ He directed the Utah office to keep further analysis of the surface mine "very limited" and "for the underground mine portion of the proposal, a broad brush general description and analysis should be completed."¹² This directive crippled BLM's efforts. Worse, it subvert-

* Impacts of underground mining, the source of 94 million tons over the last 33 years of the ANV project, were virtually ignored in the SUES.

⁸ Letter from Alan Merson, EPA Regional Administrator, Region VIII, to Mr. H. William Menard, Director, USGS, October 30, 1976.

⁹ Memo from Director, OSM to Director, USGS.

¹⁰ SUES, page A-III-6

¹¹ Memo from BLM Director to State Director, July 20, 1979

¹² ibid.

ed the entire NEPA process.

The identification of the Alton mine as an area of major public concern was made clearly evident through the AWW "scoping" process.¹³ A majority of the issues identified -- hydrological impacts, socioeconomics, air quality, land use impacts, Alton coal field impacts and aesthetics -- are directly related to the Alton mine.¹⁴

Despite the scoping results, BLM stuck to its earlier decision. The draft EIS stated "although scoping meeting responses urged an intensive evaluation of the Alton coal fields, such an evaluation is not included in this analysis."¹⁵ Instead the draft refers to the discredited SUES and asserts that it "provides analyses of the cumulative and general impacts of developing... the Alton coal fields..."¹⁶

Friends of the Earth objects to incorporating by reference the SUES into the Allen-Warner Valley EIS and the implication that this somehow substitutes for an adequate assessment of the Alton mine. The preamble to CEQ's regulations makes it clear that referencing is acceptable only "when the material is not of central importance" to the EIS.¹⁷ Moreover, BLM made no attempt to answer the widespread criticism of the SUES or remedy the document's well known deficiencies. Thus, contrary to Section 1502.21 of CEQ regulations, we believe referencing will act to

¹³40 C.F.R. §1501.7

¹⁴Allen-Warner Valley draft Environmental Impact Statement (EIS), pages 1-5.

¹⁵EIS, p. 1-6.

¹⁶Ibid.

¹⁷Environmental Law Reporter, p. 46021

impede agency and public review of the proposed project.

To give the Alton mine short shrift in the draft EIS was an act of bad faith and made the scoping process a farce. It also appears to violate CEQ regulations. Section 1502.9(a) requires that "draft environmental impact statements shall be prepared in accordance with the scope identified in the scoping process." It is fair to say this one was not.

In response to our criticism, BLM may claim that the vital information was not known, was incomplete or inaccessible while the EIS was being prepared. In such cases CEQ regulations allow for the use of a "worst case analysis" to assess the impacts of a project.¹⁸ However, a worst case analysis based on faulty or non-existent information does not contribute to an understanding of the alternatives considered in the EIS or provide a basis for a reasoned decision.

The lack or inaccessibility of certain data is not a legitimate rationale for restricting the scope of the draft EIS. Development of much of the missing information needed to prepare adequate analyses in the EIS -- air quality and visual intrusion data, a blasting study, U.S. Fish and Wildlife Service biological opinions and assessments on the impacts of pumping ground water for the coal slurry pipeline -- was in progress before the EIS was released. These studies are scheduled to be completed less than three months after the draft was issued. Unrealistic internal agency scheduling led to their exclusion and the rushed pace lies at the root of the EIS's deficiencies.

¹⁸40 C.F.R. §1502.22(b)

We suggest BLM should have waited until the essential studies were completed. This would have vastly improved the EIS and caused insignificant delays.

CEQ's regulations support our position. Section 1502.22(a) states:

if the information relevant to adverse impacts is essential to a reasoned choice among alternatives and is not known and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.

In summary, we believe the draft EIS has serious problems and does not meet the substantive requirements of CEQ's NEPA regulations. It:

--does not provide a complete and objective discussion of significant environmental impacts.¹⁹

--does not state how alternatives considered in it and decisions based on it will or will not achieve the purposes of NEPA.²⁰

--was not prepared to reflect the concerns identified in the scoping process.²¹

--has not presented a comparative analysis of alternatives that can serve as a basis for choosing among alternatives.²²

--and inappropriately used the SUES as a substitute for a meaningful analysis of the Alton mine thus hindering public and agency review of the project.²³

¹⁹ 40 C.F.R. §§1502.1, 1502.14(a), 1502.16

²⁰ 40 C.F.R. §1502.2(d)

²¹ §1502.9(a)

²² §1502.14

²³ §1502.21

Response 22-2

Summaries with references made to the Development of Coal Resources in Southern Utah Final EIS were utilized in the preparation of the AWP draft EIS as specified by a Washington Office directive. Recent developments, including the filing of a petition of unsuitability by opponents of coal development at Alton, and the resulting intensive studies by OSM, NPS, BLM, USGS, and UII which were used as a basis for the preparation of the Southern Utah Petition Evaluation Document (USDI, OSM, 1980), have provided an updated environmental evaluation of the proposed coal mine development. This document is used to summarize the environmental impacts of proposed surface and underground coal mining at Alton, with references made to the Southern Utah Petition Evaluation Document for more detailed information.

Response 22-3

Analysis in the final EIS is based on the most recent available information and all attempts have been made to present it in an objective manner. The comparison of alternatives presented in table 2-19 of the final EIS provides the reader with a basis for determining if the various alternatives will achieve the purpose of NEPA.

The issues identified in the Scoping Process section of Chapter 1 are reflected in the Impacts of Major Concern section of Chapter 4 in the final EIS. See Response 22-2 concerning the Development of Coal Resources in Southern Utah final EIS document.

Friends of the Earth believes the final EIS should not be released until the substantial data gaps have been plugged and evaluations using new information are completed. We suggest that BLM incorporate some recently completed and other ongoing studies including the NPS/BLM/OSM/EPA air quality and visual intrusion study, the NPS/OSM blasting study, the new and revised USFWS biological opinion, and the USGS/State of Utah report entitled "Ground Water Conditions in the Upper Virgin River and Kanab Creek Basins Area, Utah, With Emphasis on the Navajo Sandstone." (Hereafter referred to as the Cordova report.)²⁴

In addition, we believe BLM should answer some questions concerning the choice of the agency's preferred alternative before issuing the final EIS.

CEQ regulations require that agency's identify a preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.²⁵

The draft EIS has not identified an agency preferred alternative. It was determined that such a choice "at this time would be prejudicial to the Secretary's decisionmaking process"²⁶

²⁴ R.M. Cordova, USGS Open-File Report 80-524, 1980 (hereafter referred to as the Cordova report.)

²⁵ §1502.14(e)

²⁶ EIS, S-18.

Response 22-4

The concern expressed in this comment is addressed in Response 22-1.

regarding the Alton coal field unsuitability petition.²⁷

It is worth noting that BLM had designated the applicant's proposal--Alternative 1--as the "preferred alternative" in its preliminary version of the draft EIS.²⁸ The choice was not based on a good faith comparison between alternatives. In fact, the BLM office responsible for preparing the EIS advised the Utah state office that if forced to choose an alternative "It cannot be the Co's proposal."²⁹ Rather, the decision was made on political grounds. These are inappropriate in the environmental assessment process.

The National Park Service and the Assistant Secretary for Fish, Wildlife and Parks were lobbied to support the BLM's choice.³⁰ They rejected the offer. A concerted effort by them and other federal and state agencies along with the public forced BLM to scrap its plans.

BLM then sought waiver from the Department of the Interior's NEPA manual. The manual requires the designation of a preferred alternative in the draft EIS unless a waiver is agreed to by the Office of Environmental Project Review and the Office of the Solicitor.³¹

²⁷ Friends of the Earth, Sierra Club, Environmental Defense Fund and several southern Utah ranchers have filed the first petition accepted by OSM to have the Alton coal field declared "unsuitable for surface coal mining" under Section 522 of the Surface Mining Control and Reclamation Act. A decision on the petition is expected by December 1980.

²⁸ Preliminary Allen-Warner Valley Energy System draft EIS, p. 21, April 12, 1980.

²⁹ Memo from Dist. BLM Manager to State Director, Mar. 25, 1980.

³⁰ Memo from Joe Browder, Special Assistant to the Assistant Secretary for Land and Water to David Hales, Deputy Assistant Secretary for Fish, Wildlife and Parks, March 28, 1980.

³¹ Dept. of the Interior, Departmental Manual, 516 DM 4.10A.

The Solicitor's Office approved the waiver³² and the Director of the Office of Environmental Project Review concurred, stating

based upon the decisional link with the Alton coal field unsuitability petition we believe a prejudicial situation could prevail if a preferred alternative is expressed by the bureau at the draft stage. More importantly, the Office of the Secretary does not have and, indeed, will not have a preferred alternative until after a decision is made on the Alton unsuitability petition.³³

Furthermore, the Director recommended "that consideration be given to delaying publication" of the final EIS pending the resolution of the unsuitability petition.³⁴

The waiver of the preferred alternative raises several questions: Does the agency plan to designate a preferred alternative in the final EIS? If not, how will it comply with the requirements of 40 CFR §1502.14(e)? Will BLM delay issuing the final EIS until after the Secretary has ruled on the Alton unsuitability petition? If not, would that not create the same "prejudicial situation" that served as the basis for the waiver decision? We request that these questions be answered and made available to the public before the final EIS is issued.

Lastly, we would like to comment on the connection between the federal and state decision-making processes.

³² Memo from Acting Deputy Solicitor to BLM Director, May 12, 1980.

³³ Memo from Director, Office of Environmental Project Review to BLM Director, May 14, 1980.

³⁴ Ibid.

CEQ regulations provide that federal agencies shall

cooperate with State and local agencies to the fullest extent possible to reduce duplication between NEPA and comparable State and local requirements...³⁵

The California Public Utilities Commission is preparing a draft environmental impact report pursuant to the California Environmental Quality Act in response to Pacific Gas & Electric's and Southern California's application for a "certificate of public convenience and necessity" for the Harry Allen and Warner Valley power plants. PG&E and SCE would receive the great bulk of electricity from the power plants. The EIR was prepared almost concurrently with the federal EIS and will be released shortly.

It is unfortunate that BLM and the CPUC did not issue a joint document. One report that summarized all available data would have fostered better public and agency understanding of the proposed project and the availability of alternatives.

The CPUC's decision on the certificate of public convenience and necessity will have a major bearing on the outcome of the entire AWV project. The CPUC's ruling will effectively limit the choices Interior will face in making its decisions.

Assistant Secretary of Interior, Guy Martin, acknowledged the pivotal role of the CPUC saying, the AWV project "will be determined a lot by what California says its (energy) need is."³⁶

³⁵ 1506.2(c).

³⁶ Los Angeles Times, "Conflicts on Utah Power Grow Heated," July 21, 1980, p. 1.

He elaborated on the state's right to make a need determination in a July 7th meeting in Salt Lake City. He stated if the CPUC finds a need for all or part of the project's electricity, Interior would be unable to disapprove the project based on its own finding to the contrary. The converse applies as well. If the CPUC finds there is no or only a partial need for the project, Interior could not approve the entire project based on its own finding that California will need the energy. Neither case should prevent an Interior finding that the electricity demand determined by the CPUC could be met by alternatives that are more environmentally sound.

We hope the spirit of cooperation expressed in Salt Lake by the Department to work with the CPUC will continue until the final decisions are made on AWV. Specifically, we urge BLM to use the information in the EIR and the CPUC's staff position in the AWV certificate case in preparing the final EIS. We also urge the Department to incorporate the certificate decision expected in mid-December 1980 in its final AWV decision.

Our specific comments on the draft follow.

AIR QUALITY

Coal Mining in the Alton Coal Field

There is no new analysis in the EIS of how surface mining in the Alton coal field will affect the air quality of Bryce Canyon National Park. The EIS simply refers to the SUES analysis. As we explained, that was found unacceptable by many reviewers. Reliance on the SUES, as we have stated before, is a major shortcoming of the AWV draft EIS.

Response 22-6

BLM has been working in close coordination with CPUC throughout the EIS process. The publication of a joint document was found to be impossible because of differences in mandates, schedules, deadlines, and format.

The CPUC draft EIR and technical reports have been used in the preparation of this EIS. See pertinent information concerning the participating California utilities and proceedings in the CPUC's process to respond to the utilities' application for a certificate to participate in the AWV project have been consulted.

Response 22-7

An interagency task force representing EPA, BLM, OSM, and NPS has completed a new study on the effects of the proposed Alton mine on air quality. Modeling studies indicate that maximum concentrations of particulate pollutants in Bryce Canyon National Park would not exceed Class I standards.

However, the same study did indicate that there probably would occur a perceptible visibility reduction for observers at Yovimpa Point in Bryce Canyon National Park.

Another study was performed by UII. It also did not indicate any violations of Class I standards in Bryce Canyon National Park. See the Air Quality sections of Chapter 4 in the final EIS.

The limitations of the SUES were well known to BLM before the EIS was started. The agency could have initiated new studies to gain some credible knowledge on this important issue. Instead, the agency sat on its hands.

The draft also made no attempt to quantify and assess the impacts of underground mining on air quality. References to the SUES do not help. It contained no such information. The Office of Surface Mining considers effects on air quality from underground mining operations to be "similar" to those of surface mining.³⁷

Again, we recommend that the air quality analysis being prepared by several federal agencies be included in the final EIS and that BLM consult with OSM and seek other information that will lead to a better assessment of underground mining in the final EIS.

Coal Preparation Plant

The coal preparation plant would crush, store, clean, wash, and fine ground about 11 million tons of coal a year.³⁸ Common sense suggests that a plant processing 32,000 tons of coal each day, the plant would have to emit some pollutants. The draft, however, contains not one word on the air quality impacts of the preparation facility.

The draft claims that the preparation plant would cause "no significant impacts" on air quality³⁹ and that it will use best available control technology for pollutant control to assure

³⁷43 F.R. 41781

³⁸EIS, p.2-5.

³⁹Ibid., p. 4-24.

Response 22-8

Refer to Response 22-7 for information on this concern. The interagency study included the effects of both surface and underground mining.

Response 22-9

The effects of the coal preparation plant were considered in the interagency air quality study. The applicant proposes several mitigating measures to reduce dust emissions, which include a water spray system with a control efficiency of 70 percent at the coal dumping site. Primary and secondary crushers would be equipped with wet scrubbers with control efficiencies of 99 percent. The conveyor system would be enclosed and dust would be vented to a scrubber with a control efficiency of 99 percent. With these controls, total emissions would amount to 33.65 tons per year.

EPA has indicated that the proposed coal preparation plant would not require a PSD permit. New EPA regulations (45 FR 52676) require only a PSD review if controlled emissions are greater than 250 tons per year. This is a change from previous regulations which required a PSD permit whenever the potential emissions (i.e., without controls) exceeded 250 tons per year.

"meeting applicable pollution control standards."⁴⁰ There is no documentation offered to support these claims. We would like to know how BLM arrived at them.

If the preparation plant would emit 250 tons or more of any regulated air pollutant it will be subject to the new source review requirements of the Clean Air Act.⁴¹ If the plant is found to be a "major emitting facility,"⁴² emissions associated with the Alton mining operations, including fugitive dust, could be subject to the increment review and air quality related values test under the prevention of significant deterioration program.⁴³ EPA's PSD program provides that

the reviewing authority should consider such secondary emissions in determining whether the source would cause or contribute to a violation of an ambient ceiling or increment.⁴⁴

We suggest that BLM investigate the possibility that the coal preparation plant will need to obtain a PSD permit. Identifying the emissions associated with the coal preparation plant at the Black Mesa mine serving the Mohave power plant would be a good starting point. Mohave's coal is supplied by the only active coal slurry pipeline in the country. There might also be valuable information contained in the environmental assessments of the Energy Transportation Systems, Inc. proposed coal slurry pipeline. That project would slurry millions of tons a year from Wyoming to Arkansas. If a permit is required we

⁴⁰ Ibid., p. A4-1

⁴¹ 42 U.S.C. §7475

⁴² 42 U.S.C. 7479(1)

⁴³ 42 U.S.C. 7470-7491

⁴⁴ 43 F.R. 26403

believe the final EIS should contain information on the likelihood of air quality violations from the facility.

WATER RESOURCES

Ground Water Pumping for Coal Slurry

The scoping process showed that potential hydrological impacts of the project are of greatest concern to the public and state and local governments. The issue is so controversial that the State of Utah, Kane County, and the City of Kanab's support for the Allen-Warner Valley project is contingent upon a showing by the applicants that ground water withdrawals will not impair existing and pending water users.⁴⁵

Pumping ground water for the coal slurry pipeline would probably be the most significant hydrological impact of the project. The principal impacts would be interference with existing wells, reductions in surface water flows, possible changes in the chemical quality of ground water and surface water, and a shift in the natural groundwater drainage divide. These impacts were examined in the recent Cordova report by the U.S. Geological Survey in cooperation with the Utah Department of Natural Resources. The findings of the Cordova report are briefly summarized below. We recommend that BLM use the report as a source in preparing the final EIS.

The draft EIS found that "no determination can be made

⁴⁵ Office of Surface Mining and Enforcement, transcript of proceedings, Public Scoping Meeting on the Evaluation of a Petition to Designate Certain Federal Lands Unsuitable for Coal Mining in Southern Utah, Kanab, Utah, May 6, 1980.

from available information to conclude if interference would occur to other existing or potential aquifer users."⁴⁶ The Cordova report disagreed. It cites evidence of "interference between deep and shallow wells in the same aquifer and between wells in superposed aquifers" based on two aquifer tests in Johnson Canyon.⁴⁷ Well tests also showed "interference...in several parts of Kanab Creek Canyon."⁴⁸

Based on the existing evidence, the report concluded

pumping of a well anywhere in the Navajo Sandstone in the Kanab Creek Basin probably would cause some decline of water levels elsewhere in the aquifer and probably in overlying and underlying aquifers in the basin.

Furthermore, pumping of wells in any aquifer in the study area can be expected to cause declines of water levels to some degree in other nearby wells in that aquifer and in overlying and underlying aquifers.⁴⁹

These conclusions contradict the applicants' who claim that ground water pumping will have no impact on existing and potential water users.⁵⁰

The report found there apparently are hydraulic connections and streams in many parts of the study area. For all the streams cited "base flow comprises a significant part of the total annual

flow."⁵¹ For Kanab and Johnson Canyon Creeks, two streams at the center of the water controversy,

"most of the base flow in the lower reaches... comes from the Navajo Sandstone; consequently, increased withdrawals of water by wells in the Navajo would, in time, measurably reduce the flow of those streams."⁵²

Pumping would probably degrade the quality of ground and surface water in the area. Ground water quality is high with dissolved-solid concentrations of water in the Navajo Sandstone relatively low.⁵³

In general, the report found

large withdrawals of freshwater from the Navajo Sandstone probably would induce inflow into that formation of relatively more mineralized water from overlying and underlying rocks.⁵⁴

Surface waters would deteriorate as well. There would be a general "net increase in dissolved-solids concentration of the streams"⁵⁵ which could lead to "increased salinity of Johnson and Kanab Creeks" in particular.⁵⁶

There are many unresolved issues related to ground water pumping. As the draft EIS explains, to determine accurately the extent of water table drawdown, "a long-term pumping test using strategically placed observation wells would have to be

⁴⁶EIS, p.4-28.

⁴⁷Cordova report, p. 84.

⁴⁸Ibid.

⁴⁹Ibid., p. 85.

⁵⁰See statement of John Ferrel, Project Manager for the Alton Coal Project, Utah International, Inc., presented at public scoping meeting on the unsuitability petition, Kanab, Utah, May 6, 1980.

⁵¹Cordova report, p. 92.

⁵²Ibid.

⁵³Ibid., p. 93.

⁵⁴Ibid., p. 96

⁵⁵Ibid., p. 93.

⁵⁶Ibid., p. 96.

conducted.⁵⁷ We agree and think that pumping tests will provide important data that will help answer other questions concerning ground water extraction at Bald Knoll.

Friends of the Earth urges BLM and the Department of the Interior to require the applicants to conduct long-term pumping tests. We believe the tests must conclusively show that ground water pumping will not adversely effect existing and potential water users before any permits are issued for the coal slurry pipeline, Alton to Spry transmission line, Alton coal mine and any other component of the Allen-Warner Valley project dependent on ground water extraction.

Lastly, the final EIS should mention that the applicants have not successfully demonstrated that they can withdraw 6,000 gallons a minute from the 13 wells within three miles of Bald Knoll as they have proposed. Utah International, Inc. has applied for over one hundred wells in the area. If water has to be withdrawn from any wells other than those proposed that would greatly change the projected impacts from ground water pumping. We hope BLM will include any information on recent pumping tests conducted by Utah International in the final EIS.

Warner Valley Water Project

The draft EIS does an excellent job documenting that the Warner Valley water project is unnecessary and could cause serious environment damage. The project is based on highly speculative demand projections, would needlessly threaten endangered plant and animal species with extinction and would lower water quality

⁵⁷ EIS, p. 4-26.

in the Virgin River.

The draft makes it clear that the water demands postulated by the Washington County Water Conservancy District are fictional. According to the District's estimates, of the 32,600 acre-feet average annual yield of the reservoir, a maximum of 18,000 acre-feet are firmly committed.⁵⁸ However, almost one-quarter of that total (4,170 acre-feet) would be used by the proposed Warner Valley powerplant only under unusual conditions. No specific plans have been proposed for the remaining 14,600-18,770 acre-feet.

It is no mystery why there is no demand to use the bulk of the water from the Warner Valley reservoir. Washington county communities (with the exception of Washington) that would use the reservoir water have ample supplies for the next 40 years.⁵⁹ The analysis in the draft is conservative since it assumes high growth rates and virtually no water conservation.

Demand for water in the area in the year 2020 will consume only 82% of present capacity.⁶⁰ The town of Washington's projected water deficit would consume only 14% of this surplus in the same year.⁶¹

⁵⁸ Ibid., p. 2-16

⁵⁹ Ibid., p. 4-31

⁶⁰ Ibid.

⁶¹ Ibid.

Response 22-10

Several studies and ground water pumping simulations were completed after publication of the draft EIS. These studies and simulations are addressed in the Ground Water Pumping for Coal Slurry section under Alternative 1 of Chapter 4 in the final EIS.

Response 22-11

An updated projected water needs analysis is listed in table 6, Appendix 11, and in the Purpose and Need of Proposed Project section of Chapter 1 in the final EIS.

The reservoir would not provide many other benefits such as recreation. Temperature and dissolved oxygen limits for warm water fish could be exceeded making the potential for fishing "limited."⁶² The projected 60 foot drawdown 5 out every 35 years would also limit recreational use.⁶³ Moreover, there are many reservoirs nearby, notably Lake Mead and Glen Canyon, that can adequately serve prospective recreational users.

The draft points out that the Warner Valley water project is not wholly dependent on the construction of the Warner Valley power plant. The State of Utah may finance the project through its Water Conservation and Development Program. However, this is unlikely because "the State development program has not yet identified enough money to build the project as currently designed."⁶⁴

We believe that the Warner Valley power plant is included in the applicant's proposal solely to finance the water project. The State of Utah implicitly recognizes this. It believes that only the "power plant will make the reservoir construction... economical."⁶⁵

⁶² Ibid., p. 4-32.

⁶³ Ibid.

⁶⁴ Ibid., p. 2-12.

⁶⁵ Letter from Jim Butler, Natural Resources Coordinator, Utah State Office of the Planning Coordinator, to Russell Schweickart, Chairman, California Energy Commission, May 19, 1980.

Utah was not the first to conclude that the Warner Valley water project makes little economic sense. Congress has consistently refused to fund the water project since it was first proposed as the Dixie Project earlier this century. Therefore, it is no surprise that the state "would rather have the reservoir constructed as part of the Allen-Warner Valley Energy System."⁶⁶

12 [We suggest that BLM investigate the consequences of the AWV applicants not building the Warner Valley water project. We believe if the reservoir is not built, the State may not allow or may be prohibited from exporting water in the Alton coal slurry pipeline.

Utah state law allows water exports with the consent of the Governor only after the state engineer evaluates and makes public "the advantages to the State of Utah and its citizens of exporting water."⁶⁷

If the water project is not built and pumping tests show that ground water extraction would impair area water users, it may be very difficult for the state to show that the export of water is advantageous. If the State prohibits the export of water the AWV project crumbles.

That the State of Utah and Congress have been unwilling to finance the Warner Valley water project is poignant commentary on the desirability of the project. If Utah and Washington County Water Conservancy District feel strongly that the project

⁶⁶ EIS, p. 2-12.

⁶⁷ Utah Annotated Code, Section 73-2-8.

Response 22-12

The effects of not building the Warner Valley water project are addressed in the final EIS in the Purpose and Need of Proposed Project section of Chapter 1 and in Chapter 3. Utah Code Annotated, Section 73-2-8 directs the State Engineer to assess the benefits, if any, of exporting water (from any source) outside the State. The State's assessment has not been completed to date.

should be built they should pay for it. As it stands now, the project is a thinly veiled subsidization of a Utah water project by California rate payers.

Mining in the Alton Coal Field

The draft provides essentially no information on how underground mining would effect water resources. This is a major deficiency in the draft. The only information we found was that "an undetermined amount of subsidence...may result in alterations in streamflow."⁶⁸

Surprisingly, the draft ignored even the limited information in the SUES. That document noted: "both the coal itself and adjacent formations are aquifers that present significant dewatering problems for mining;" the likelihood of "severe subsidence...would result in...disruption of drainage patterns;" and that "environmentally, the potential effect of underground mining, especially on drainage patterns and surface flows, probably would be more adverse than the impacts of strip mining."⁶⁹

If BLM has information that contradicts the findings of the SUES it should be presented in the final EIS. In any case, the final should include a full evaluation of how underground mining would impact ground water and surface water resources. Specifically, we believe the issues to be covered include the possibilities of contaminating ground water and increasing sedimentation in surface waters.

⁶⁸EIS, p. 4-26.

⁶⁹SUES, p. A-VIII-6,7.

Response 22-13

The Water Resources section under Alternative 1 of Chapter 4 in the final EIS has been revised to include the issues mentioned in your comment.

Coal Preparation Plant

The EIS estimates that the coal preparation plant would produce over 3,400 tons of solid waste each day.⁷⁰ The wastes would be "trucked back to mined-out areas for disposal or placed in a 62-acre tailings pond."⁷¹

There is no information in the draft regarding possible impacts of the solid waste on water resources. The final EIS should provide data on the contents of the solid waste and the potential for contamination of water resources by toxic materials.

LAND USE, LAND USE PLANS AND CONTROLSAlton Coal Field

The draft repeatedly asserts that analyses of impacts to land use is described in the SUES.⁷² While the SUES did provide some information on surface mining impacts, there was scant mention of underground mining. What little there was has been ignored in the draft EIS. The most notable finding in the SUES was that if underground mining is used in the Alton coal field "the potential for severe subsidence is high."⁷³ We suggest BLM look at the Office of Technology Assessment's The Direct Use of Coal: Prospects and Problems of Production and Combustion (April, 1979) for more information.

RECREATION AND AESTHETICSAlton Coal Field

Mining the eastern end of the Alton coal field would tempo-

⁷⁰EIS, p. 2-2.

⁷¹Ibid., p. 2-5.

⁷²Ibid., pp. 4-58, 4-84, 4-113.

⁷³SUES, p. A-VIII-6.

Response 22-14

Without a specific mine plan, which would also include required mitigation, the effects of solid waste and contamination of water resources can only be treated in a general manner. See also the OSM Draft Petition Evaluation Document (1980) and the Water Resources section under Alternative 1 of Chapter 4 in the final EIS.

Response 22-15

The final AMV EIS includes information that has been updated to reflect the Southern Utah Petition Evaluation Document (USDI, OSM, 1980). See the appropriate sections under Alternatives 1 and 2 in the final EIS.

rarily and possibly permanently impair the aesthetic qualities of Bryce Canyon National Park which has been deemed worthy of permanent protection for the future well-being of all Americans by the U.S. Congress. Friends of the Earth feels strongly that the industrial activity proposed on the doorstep of Bryce is incompatible with the purposes of the park and by the precedent it may set, threatens the integrity of the entire national park system. If Interior allows visitors to Bryce to see, hear and feel strip mining activities can using Old Faithful for electricity generation be far behind?

Many recreational and aesthetic problems remain unresolved including noise and visual intrusion, blasting impacts, damage from increased ORV use and increased population pressures. BLM suggests these will be examined by the Office of Surface Mining. Maybe they will, but it is BLM's duty to provide analyses of these issues in the final EIS if it intends to comply with the law.

EXISTING AND PROJECTED ELECTRICAL ENERGY DEMAND AND ENERGY ALTERNATIVES

Pacific Gas and Electric's and Southern California Edison's alleged need for electricity to meet new growth in demand, compensate for facility retirements, replace power currently transferred from the Pacific Northwest and displace their use of existing oil and gas fired generating capacity is the driving force behind the Allen-Warner Valley project. The project cannot proceed without the participation of the California utilities. Therefore, to what degree, if any, the California utilities can participate in AWV, as determined by the CPUC, is a

Response 22-16

An environmental analysis of noise, visual intrusions, and blasting relating to the development of the Alton coal lease area is summarized from the draft Southern Utah Petition Evaluation Document (USDI, OSM, 1980) in the Alton coal lease area sections, Recreation and Aesthetics, in Chapter 4 of the final EIS. An analysis concerning ORV access and utility corridors is in the Coal Slurry Pipeline and Electrical Transmission System sections, Recreation and Aesthetics, in Chapter 4 of the final EIS.

Response 22-17

Your concern is addressed in Response 22-6.

key in AWV outcome.

The CPUC's EIR and staff position on the AWV certificate application have not yet been made public as of this date. We cannot complete our comments on energy needs and alternatives until we have had a chance to review them. We will, however, offer some comments on these critical issues and amend our statement after we have seen the CPUC's documents.

The energy picture in California is changing with remarkable speed. In the last four months, 5,390 megawatts of new power plant capacity that was scheduled to be on line this decade has been deferred or cancelled.⁷⁴ The effectiveness of conservation measures and the enormous expense of building new centralized base load facilities are the main causes of the bearish power plant market.

At the same time, utilities have discovered that conservation and alternative energy sources--cogeneration, geothermal, wind, hydro, solar--can provide cleaner, cheaper and more reliable energy. For example, PG&E has recently proposed an ambitious zero interest loan program for conservation investments. PG&E's vice president for customer operations, commenting on the conservation program, said

⁷⁴In March, 1980, PG&E delayed its proposed construction of the 1,600 MW coal-fired Montezuma 1&2 for three years, the California Department of Water Resources terminated work on its proposed 1,000 MW coal plant and in June, SCE cancelled its planned 1,290 MW Lucerne Valley combined cycle plant and delayed its proposed 1,500 MW Cal Coal project for three years.

this saved energy will provide a cheaper source of supply--which benefits everyone--than would equivalent new energy supplies.⁷⁵

Similar interest-free loan programs for purchasing solar energy equipment will likely start this year as well.

The CPUC and Energy Commission have been encouraging California utilities to invest in conservation and energy alternatives instead of new coal and nuclear plants. The CPUC policy states

Where it is cost effective against other alternatives, conservation (and alternative energy sources) investment represents the most efficient use of California's available capital (with minimum environmental impact) and should be encouraged over new generation.⁷⁶

The Energy Commission general planning criteria provide, among other things, that

Utility supply plans and Commission decisions should give first priority to geothermal, cogeneration, and renewable energy sources...⁷⁷

The draft EIS makes a strong case for designating Alternative 5 -- "implementation of a variety of conservation programs and the development of nonconventional energy sources"⁷⁸ -- as

⁷⁵Los Angeles Times, "PG&E Plans Interest-Free Energy Conservation Loans," Part IV, page 1, March 26, 1980.

⁷⁶California Public Utilities Commission, Decision 89316, p. 19-20.

⁷⁷California Energy Commission, "Statement of Position on the Harry Allen-Warner Valley Energy System," May 21, 1980.

⁷⁸EIS, p. 2-40.

the agency's preferred alternative in the final EIS. It is clear that conservation, cogeneration, wind, geothermal, hydro and solar technologies could obviate the need for the Allen-Warner Valley project.⁷⁹

In addition to requiring agencies to choose a preferred alternative in the final EIS, CEQ regulations require the identification of one or more "environmentally preferable" alternatives in the record of decision.⁸⁰ The draft builds a strong case for Alternative 5 to be chosen as the environmental preferable alternative. It states

This alternative would involve minimal and diversified use of the environment in the short-term. Therefore, the long-term productivity of the environment could be enhanced as more resources in their natural state would be maintained for future availability.⁸¹

The information presented in the EIS shows that the use of conservation and alternative energy sources can minimize the inordinate environmental destruction posed by the Allen-Warner Valley project. Conservation and alternatives can also fulfill future energy needs and achieve important national goals such as reducing the use of imported oil in electrical generating stations. Therefore, Friends of the Earth urges the Department of the Interior to designate Alternative 5 in the draft EIS as the agency preferred and environmentally preferable alternative.

Options Other Than Alternatives 5 and 1

There is of course the possibility that the CPUC and Depart-

Response 22-18

These comments have been reviewed and will be considered in the decision making process.

⁷⁹ Ibid., p. 4-143-145.

⁸⁰ §1505.2(b)

⁸¹ EIS, p. 4-148.

ment of the Interior will approve all or part of the AWP project. If that should happen, we offer the following observations.

The draft EIS considered alternatives that would consist of the Harry Allen power plant supplied by coal slurry from Alton or supplied by central Utah or southwest Wyoming coal sources delivered by existing rail facilities.⁸² We believe existing data demonstrates that if the Harry Allen plant is built, there is no need to develop the Alton coal field as its fuel source.

Southern California Edison has submitted information to the California Energy Commission that shows there is a tremendous surplus of western coal being produced now.⁸³ The responses from 32 out of 81 coal suppliers and lease holders SCE contacted showed they are producing an excess of 10 million tons of coal a year, more than enough to supply the Harry Allen plant. Half that total (5 million tons) represent current excess production from southwestern/central Wyoming and central Utah.

SCE's data also showed 105 million tons of uncommitted annual production will be available about the time the plant would be built.⁸⁴ This is an order of magnitude more than the plant would need. Central Utah and southwest/central Wyoming production would account for 46 million tons of the total.

We do not offer this information to suggest, even tacitly, that we in any way support the use of central Utah, Wyoming, or

⁸² Alternatives 1,2,3 and 4.

⁸³ Prepared testimony of Thomas J. Rose, SCE, in the California Energy Commission's Notice of Intent proceeding on the proposed Cal Coal Project, Docket 79-NOI-3, June 9, 1980.

⁸⁴ Ibid., p.4.

Response 22-19

Pertinent information concerning adequate coal supplies to the Allen powerplant from sources other than the Alton coal fields has been reviewed and included in the descriptions of Alternatives 3 and 4 in Chapter 2 in the final EIS. Also refer to the Coal Resources Quality and Availability section in Chapter 3 of the final EIS.

any other western coal source for the Allen plant. As we have said before, we believe there is no need for the Allen plant or any other part of the AWV project. We mention SCE's data simply to answer those who say Alton coal is essential for the Harry Allen plant.

The cost of coal from Alton versus other sources is another important criteria that must be considered. The proponents have claimed that "the Alton coal field will be the cheapest coal available for those (Warner Valley and Harry Allen) power plants."⁸⁵

Again, we have not seen the CPUC staff paper that will examine the coal cost issue. However, it is very likely the capital costs of the slurry facility are greater than those associated with the delivery of coal by rail. Furthermore, the reduced heat content of the coal and heat rate of the power plants caused by the slurry and the energy needs of the dewatering process will necessitate a large boost in coal use relative to the rail option. This would obviously boost fuel costs and the overall cost of the project and would waste coal resources.

We suggest that BLM obtain a copy of the report being prepared by Morrison-Knudson for the project proponents that will examine the costs and availability of alternative coal sources. BLM should also use the CPUC staff report on coal costs in preparing the final EIS.

Alternative 3 would build a smaller version of the Warner Valley power plant. We want to make it clear that there is no need for any Warner Valley power plant even assuming the utili-

Response 22-20

Your comment is addressed in Letter Response 22-6 and the Coal Resources Quality and Availability section in Chapter 3 of the final EIS.

⁸⁵ Los Angeles Times, "Conflicts on Utah Power Grow Heated," July 21, 1980, p. 1.

ties must meet the energy needs identified by the BLM, Nevada Public Service Commission and California Energy Commission.

The cumulative need for power, based on independent verifications, is 1,828 MW.⁸⁶ This leaves about 700 MW of the AWW project unaccounted for. Obviously, the 500 MW or 250 MW at Warner Valley can be dropped.

The lack of need for the energy or water from the Warner Valley project and the project's potential for tremendous environmental destruction convinces us that the project should not be built. We urge the Department of the Interior to deny it all federal permits.

Finally, we would like to know whether BLM has evaluated the chances of successful underground mining in the Alton coal field. There was no such information in the draft. But, the bureaus often cited source for Alton information, the SUES, was not sanguine about underground mining prospects.

It stated

The unfavorable geological conditions for underground mining would make extraction by this method extremely expensive if not impractical...underground mining as proposed by the proponent is not considered a viable alternative for strip mining under the original proposal.⁸⁷

If BLM has information that contradicts USGS's findings it should be included in the final EIS. If it does not, BLM should consider whether underground is feasible in the Alton coal field.

⁸⁶EIS, p. 1-3.

⁸⁷SUES, A-VIII-7.

Response 22-21

Refer to the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS for updated information on the need for power.

Response 22-22

Information extracted from the Southern Utah Petition Evaluation Document (USDI, OSM, 1980) was used to evaluate the aspect of underground mining at Alton. Refer to the descriptions of Alternatives 1 and 2 in Chapter 2 and the Topography and Geology section of Chapter 4 in the final EIS.



United States
Department of
Agriculture

Soil
Conservation
Service

3008 Federal Building
230 North First Avenue
Phoenix, Arizona 85025

August 7, 1980

District Manager
Bureau of Land Management
Cedar City District Office
1579 North Main, P.O. Box 724
Cedar City, Utah 84720

Dear Sir:

The Soil Conservation Service is pleased to have the opportunity to comment on the draft EIS for the Allen-Warner Valley Energy System.

Our comments are as follows:

1. Page 3-3: The description of soils seems inadequate. An attempt was made to address the soil resources at the powerplant site and transmission route, but no attempt was made to discuss the soils at the mining sites.

Recommendation: At a minimum, a general soil map for the counties involved at the powerplant site, transmission route, and the mining sites is needed to evaluate the soil resources.

2. Chapter 3: There is no discussion concerning prime farmlands. The EIS should provide an evaluation of the prime farmland resources and what impacts the various alternatives might have on these resources.

3. Page 4-4: It is not clear in the discussion of the accelerated soil erosion whether alternatives 1 thru 5 have the same accelerated rate of erosion. It hardly seems realistic that all alternatives should have the same impacts on the soil resources.

Recommendation: State what the annual erosion rates are now before construction and what they are projected to be after construction is started for each alternative for mining sites, pipelines, transmission lines and powerplants.

4. The Warner Valley Water Project part of alternatives 1 and 3 needs to be addressed for technical feasibility. There is no discussion on the proposed site of the dam and associated potential problems. From long experience, it is known that gypsiferous soils and collapsible soils will definitely have an adverse effect on project construction costs. Also, high summer temperatures of the valley indicate a potential for soil dessication and subsequent cracking.

Soil Conservation Service, Phoenix, Arizona

Response 23-1

The Soils section is revised in the final EIS to reflect general soils information for the areas including the Alton coal lease area, the central Utah and southwestern Wyoming coal fields, and the Mojave Desert. During the scoping process, designed according to CEQ regulations on implementing NEPA, certain environmental elements, including soils were found to be of minor concern and were treated with considerably less emphasis in the environmental impact statement (with the exception of reclamation of soils and lands associated with coal mining). Mitigating measures and standard operating procedures (Appendix 6) were designed to minimize as much as possible the impacts to soils during the construction and operation of any project-related components.

Response 23-2

The Land Use, Land Use Plans and Controls section of Chapter 3 in the final EIS addresses your concern by indicating that there is no prime farmland that would be significantly impacted in the affected environment.

Response 23-3

As stated in Response 23-1, impacts to soils were found to be of minor concern according to scoping procedures and were treated with considerably less emphasis.

Response 23-4

The original water project design was researched by the Bureau of Reclamation under the guise of the Dixie Project in the late 1960s and early 1970s. Engineering and environmental constraints were researched at that time. Warner Valley water project specific reports are available from the Washington County Water Conservancy District (Interim Design Report on Warner Valley Water Project, Bingham Engineering, 1977; Warner Valley Water Project, Environmental Data, 1975). These reports were used in the preparation of this EIS. Problems such as gypsiferous soils and soil dessication could be mitigated with special engineering procedures.


District Manager, BLM

5. General Comments:

- 5 [a. Wind erosion may be somewhat of a problem along the
slurry line. This should be recognized and mitigation
measures identified.
- 6 [b. Kanab Creek, besides having aquatic values, supplies
water to the irrigation companies in Kanab and Fredonia.
Alton Coal Mine could potentially become a point source
of pollution for this creek. It is suggested that mea-
sures to prevent this from happening be addressed more
fully in the EIS.

Thank you again for giving us the chance to review this document. If you have
need of more information, please contact Gus Dornbusch in my office. The number
is 602-261-6711.

Sincerely,

 Acting
Thomas G. Rockenbaugh
State Conservationist

Response 23-5

Your concerns are recognized in the final EIS and would be mitigated to
the greatest extent practical with the application of mitigating measures and
standard operating procedures (Appendix 6).

Response 23-6

Specific mitigation required to prevent pollution to Kanab Creek cannot
be addressed until a mine plan is submitted. At this point, however, provi-
sions of the Surface Mining Control and Reclamation Act of 1977 would require
identification and implementation of mitigating measures.

Dear Mr. Jensen,

8/8

On the entire universal and earth's geological scale of time, man is but a mere dot. Within this dot, our ancestors, ourselves, and our grandchildren all have shared and do share equal rights to enjoyment of the earth's limited natural resources. In particular, this nation has much to learn about conservation, wiser usage, and preservation of our resources. I'm deeply concerned over what I see as short-sighted solutions to serious problems, when long-term effects should be foremost in mind. I want my children and my children's children to reap the benefits of our foresight, and not bear the burden of our hind-sight.

As a resident of Utah, I am most concerned that the absolutely priceless resources of Utah be protected. The Allen-Warner Valley Energy System poses a serious threat to these resources. Alternative energy sources, such as solar, wind, geothermal, plus

conservation could provide a greater energy yield at less cost, in the same time period as the proposed system. The Class I air quality values of Zion National Park will be damaged by emissions from the Warner Valley Plant, and dust from strip mining operations in the Alton Hills could obscure the beautiful visual range of Bryce Canyon's Yovimpa Point overlook by 64%. Several springs and wells, vital to area residents, could be depleted by pumping 10,000 acre feet of ground water for the slurry lines.

I, as well as many other concerned citizens of the public, for whom these National Parks were named, would like to see the BLM select "Alternative 5," the Energy Conservation and Alternate Energy Sources Alternative. I believe this alternative will provide a greater yield in energy at less cost than the Allen-Warner Valley Energy System. Thank you most sincerely,

Perry N. Ahmad (MRS.)

P.S. Please include my letter MIA & AHMAD in the final environmental statement and decision making process for this proposed system. Thanks again

Mr. and Mrs. Perry A. Ahmad

Response 24-1

Your views will be considered in the decision making process.

Antelope Island Press



August 11, 1980

Mr. Morgan Jensen
District Manager
Bureau of Land Management
P.O. Box 724
1579 North Main Street
Cedar City, Utah 84720

Dear Mr. Jensen,

I was a resident of Northern Utah for 17 years and have been a resident of Southern Utah for 1 year. I am writing to express my opposition to the proposed Allen Warner Valley System.

The projected population increase in Southwestern Utah will require an increased energy and water capacity in the coming years; the Allen Warner Valley Energy System is expected to fill both needs. I feel however that its price is too high, and that there are alternatives.

The mining of coal to create electricity will create an increase in the sulphur dioxide and nitrogen emissions in the atmosphere, increasing the possibility of the problem of "acid rain" in an area whose desert ecological balance is already extremely fragile. In addition, the decline in air quality and "uglification" of the area due to the strip mining, coal plant and "boom town development" will have a negative impact on the tourist industry, vital to this area in the past and the present. Our national parks and geological wonders are "resources" too that are irreplaceable and should be protected.

Our efforts should be bent toward developing renewable energy resources now- not when the coal runs out. Our coal supplies should be held "in trust" for future generations in making medicines and in chemical processes for which there are no substitutes. It is irresponsible for us to squander it on the generation of electrical energy when we can create that energy by other means. Southern Utah, Southern Nevada and Southern California are all prime sites for the development of solar energy.

- 2 -

2 [The proposed Warner Valley Water Project can be built without the entire power plant being constructed and, while Utah would have to foot the entire bill rather than paying only 1/4 of the cost, I feel it is a price that the state will be willing to pay.

May I urge you then Mr. Jensen to think in the long term interests of this area and support Alternative 5. It will, over the long haul, provide the greatest benefits at the lowest financial, social and environmental cost.

Sincerely,

Carol Olwell
Carol Olwell

Carol Olwell, St. George, Utah

Response 25-1

In the final EIS refer to the Air Quality sections in Chapter 4 for information concerning acid rain and the Recreation and Aesthetics sections in Chapter 4 for a discussion on tourism.

Response 25-2

A brief discussion of the Warner Valley water project being constructed without the Warner Valley powerplant is presented in the Introduction of the Summary, and in the Warner Valley Water Project section under Alternative 2 of Chapter 2 in the final EIS.

1272 Harrison Ave.
Salt Lake City, Utah 84105
August 11, 1980

Mr. Morgan Jensen
District Manager
Bureau of Land Management
Cedar City, Utah 84720

Dear Sir:

This letter briefly conveys my thoughts about the Allen-Warner Valley Energy System, and I would like it to be included in the final environmental statement for the AWVES.

- (1) The general policy of trying to meet this nation's energy needs by building more and more coal-fired power plants has never been all that convincing, especially when one looks at the hazards of coal emissions, and the cleaner alternatives. In this specific instance, even the California Energy Commission has put forth an alternative proposal that calls for an increasing reliance on energy sources other than coal.
- (2) Even if more coal-fired power plants were a good thing, why do they have to spring up willy-nilly wherever some group spies out attractive economics? I submit that economics should only be one of several equally important criteria, and that it is literally terrifying to know that Utah International wants to take coal just four short miles from Bryce Canyon National Park.
- (3) Given what I have indicated in 1 and 2, I would like to ask you to select Alternative 5 to the AWVES, i.e., The Energy Conservation and Alternate Energy Sources Alternative.

Thank You,

Alan Miller
Alan Miller

Alan Miller, Salt Lake City, Utah

Response 26-1

Economics (i.e., cost-benefit analyses) is just one of several criteria that are used in the evaluation of the proposed action and alternatives. The EIS is designed to focus on the probable and possible impacts to the elements of the environment, including air quality, water resources, etc.

1931 South 2500 East
Salt Lake City, Utah 84108
August 10, 1980

Mr. Morgan Jensen
District Manager
Bureau of Land Management
P.O. Box 724
1579 North Main Street
Cedar City, Utah 84720

Dear Sir,

I have recently been informed about the Allen-Warner Valley Energy System. I feel that alternative energy resources, such as solar, wind or geothermal are available and at less the cost than the Allen-Warner Valley System.

Utah is fortunate enough to have two of the nation's most noteworthy canyons, Zions and Bryce. Dust from strip mining operations in the Alton Hills could obscure the visual range of Bryce Canyon's Yovimpa Point by 64%.

Utah and Nevada are two of the driest states in the nation. Pumping 10,000 acre feet of ground water yearly for the slurry lines could adversely affect existing water rights to several wells and springs, vital to area residents.

Please select the Energy and Alternative Energy Sources Alternative. This alternative will provide a greater yield of energy at less the cost and will also preserve our beautiful canyonlands.

Please include this letter and all others concerning this issue in the final environmental statement and decision making process.

Sincerely Yours,

Lisa Bowen

Lisa Bowen

Lisa Bowen, Salt Lake City, Utah

Response 27-1

The availability of alternate energy sources is addressed under Alternative 5 of Chapter 4 in the final EIS. Comparative costs, though not a part of the analysis in the text, will be considered in the decision process.

Response 27-2

Refer to the Air Quality section under Alternative 1 in Chapter 4 of the final EIS for a discussion of potential impacts to Bryce Canyon National Park.

Response 27-3

Your concerns are addressed in the Ground Water Pumping for Coal Slurry section, Water Resources under Alternative 1 in the final EIS.

Craig Rayle
PO Box 862
Green River, Utah
August 11 1980

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Mr Morgan Jensen
District Manager
Bureau of Land Management
PO Box 724
157 North Main Street
Cedar City Utah

Dear Mr Jensen

I am writing in regards to the proposed Allen-Warner Valley Energy System. It is my understanding that if the entire system is constructed as proposed several detrimental effects on the quality of human environment will occur in Southern Utah.

The fore most of these impacts would be air quality. The southwest contains the cleanest air in the lower 48. BLM should not approve any action which would damage this treasure. Such damage would occur both from the strip mine in Alton Hills due to dust and from the burning of coal at either the Harry Allen or Warner Valley plant. Direct impacts would occur at Zion and may according to National Park Service studies violate Class I air there. This is, in my opinion, unallowable.

Should the Harry Allen plant be allowed to open strict air pollution levels should be set and complied with.

Another ~~impact~~ major impact would occur if water is used in the proposed slurry lines. Little water is now available in this area and if Utah continues to grow at its predicted rate this water will be needed for other uses such as agriculture to supply food for the increased population. This water should not be used for the ~~slurry lines~~ proposed.

My final objection to the plan is the strip mine proposed beneath Youimpa Point at Alton Hills such a mine would create a permanent, unsightly scar on one of my states greatest views

For these reasons I am asking that Alternative 5 be selected and that both Conservation measures and strict air pollution standards be met at the Harry Allen plant. and that the coal be shipped by rail from existing sources in Central Utah.

Please enter this letter in the final EIS and make it available during the decision process.

Thank-you
Craig B Rayle

Craig B. Rayle, Green River, Utah

Response 28-1

Your views are noted and will be considered in the decision making process.

58
 1
 When it may concern
 I STRONGLY OPPOSE THE DEVELOPEMENT
 OF A STRIP MINE NEAR BRYLE.
 INSTEAD OF PROVIDING MORE ENERGY
 TO COVER PEOPLE'S WASTE, I FEEL
 THAT THE EARTH SHOULD BE
 SPARED & PEOPLE FORCED TO
 CONSERVE. Do you conserve electricity
 Why don't you start a president & have the
 BLM be a good steward of the land, not just
 an abuser.
 Sincerely, Leon Werdinger

Leon Werdinger

Response 29-1

Your views will be considered in the final decision making process.

BRUCE BABBITT, Governor

Commissioners

C. GEORGE TOLLE, Phoenix, Chairman
WILLIAM H. BEERS, Prescott
CHARLES F. ROBERTS, O.D., Bisbee
FRANK FERGUSON, JR., Yuma
FRANCES W. WERNER, Tucson

Director

ROBERT A. JANTZEN

Deputy Director

ROGER J. GRAUENEWALD

30

ARIZONA GAME & FISH DEPARTMENT

2222 West Greenway Road Phoenix, Arizona 85023 942-3000

August 7, 1980

District Manager
Cedar City District
Bureau of Land Management
P.O. Box 724
Cedar City, Utah 84720

REF: 1792 AWV
(U-921)

Dear Sir:

The Allen-Warner Valley Energy System Draft Environmental Impact Statement has been reviewed by our office, and we offer for your consideration the following comments:

The Warner Valley Water Project

Many of our concerns with the Allen-Warner Valley Energy System involve the Warner Valley Water Project. We believe this water project will cause significant adverse impacts to the woundfin (*Plagopterus argentissimus*), the roundtail chub (*Gila robusta seminuda*), and downstream wetland and riparian vegetation.

The prime limiting factor of the woundfin is modification and loss of habitat (U.S. Fish and Wildlife Service, 1979). Losses in the original distribution of the woundfin (including those in the Salt, Gila, and Colorado River systems) have been attributed to habitat modifications resulting from water storage and diversion facilities (Minckley 1969, 1973; U.S. Fish and Wildlife Service, 1979). We believe the Warner Valley Water Project will have similar results, further decreasing the numbers and distribution of both the woundfin and the roundtail chub.

We expect that the Project will adversely impact downstream water quality. Decreased stream flow, as a result of the water project, is expected to increase water temperatures downstream from the project. Since water temperatures approaching 30° C. appear to be undesirable for woundfin, post-project temperatures may prove limiting to woundfin reproduction and survival.

August 7, 1980

page 2

Furthermore, decreased stream flows will result in an increase in salinity of waters downstream from the water project. It is uncertain how much of an increase in salinity the woundfin and the roundtail chub could tolerate without being adversely affected.

The woundfin, which is highly adapted to high turbidities, favors silty streams with sandy, moving bottoms and avoids clear water. We believe that the Project will change these habitat conditions by causing a decrease in the suspended sediments downstream of the diversion. This change would produce unfavorable habitat conditions for the woundfin while improving conditions for exotic species. Exotic species would then be able to more successfully compete with and prey upon the woundfin.

Another concern is the possibility for additional introductions of exotic species into the Virgin River. It is expected that stocking of exotic species into the Warner Valley Reservoir will result in introductions of these species into the river.

We also express concern over the impacts the Warner Valley Water Project may impose to downstream wetland and riparian vegetation. Decreased flows resulting from this project may create a loss of wetland and riparian habitat, critical to many wildlife species.

The Coal Slurryline and Electrical Transmission System

Concerning the slurryline proposals, we support the planned revegetation of wetland/riparian habitat at the Virgin River crossing. This practice is essential to check erosion and restore this critical habitat type.

However, we are concerned regarding the proposed design of the slurry pipe at the Virgin River crossing. We believe the potential spill volume of .02 acre-ft (6,500 gallons) can and should be reduced with the use of hydrostatic monitors and remotely operable valves located on both sides of the river. We believe that a coal slurry spill of .02 acre-ft into the Virgin River would significantly impact sensitive species in both the Virgin River and Lake Mead.

A concern not addressed in the Draft EIS is the possible impact imposed on Desert Bighorn Sheep by the construction of the slurryline and electrical transmission system. There is an ongoing reintroduction of bighorn sheep near the proposed

August 7, 1980

page 3

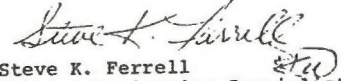
route of the coal slurryline and electrical transmission lines. Construction activities in this area may prevent bighorn sheep from watering at the Virgin River, as well as disrupt the lambing season. To avoid such impacts, construction should not take place from January - May in the area north of the Paiute Primitive Area.

Increased ORV access, as a result of construction of the slurryline and electrical transmission system, could be minimized if the same access roads and staging areas used in the construction of the Navajo-McCullough transmission line were used in the construction of the new facilities. We prefer that these existing developments be used, wherever possible.

Thank you for the opportunity to comment on this document.

Sincerely,

Robert A. Jantzen, Director


Steve K. Ferrell
Habitat Evaluation Specialist
Kingman Regional Office

SKP

cc: Don Metz, Fish and Wildlife Service, Phoenix
State Clearinghouse 80-80-0044

Arizona Game and Fish Department, Phoenix, Arizona

Response 30-1

The USFWS has submitted its biological opinion concerning the woundfin minnow and the Virgin River roundtail chub. The impacts to these species resulting from diversions of water from the Virgin River can be found in the Wildlife: Species of Concern section under Alternative 1 of Chapter 4 in the final EIS.

Response 30-2

It is likely that exotic fish species would be introduced into the Warner Valley reservoir. The impacts of these species upon the woundfin minnow and the Virgin River roundtail chub were outlined in the biological opinion and the Technical Assistance Report provided by the USFWS. This information can be found in the Wildlife: Species of Concern section under Alternative 1 of Chapter 4 in the final EIS.

Response 30-3

The effects of the Warner Valley water project were discussed in the biological opinion and the Technical Assistance Report provided by the USFWS (incorporated in the final EIS). Minimum flows recommended by USFWS to maintain woundfin habitat would allow for maintenance of present riparian habitat.

Response 30-4

The use of hydrostatic monitors and remotely operable valves is part of the standard operating procedures outlined by the proponent for Virgin River crossings. This can be found in Appendix 6, Water Resources, Mitigating Measure 3.

Response 30-5

Appendix 4, the Applicants' Proposed Design and Operating Procedures, discusses measures to be taken in order to minimize the impacts of construction of powerlines on bighorn sheep. This can be found in Appendix 4, Wildlife, Mitigating Measure 3.

Response 30-6

The double circuit 345-kV Warner to Pecos transmission line would run parallel and adjacent to the existing 500-kV Navajo-McCullough transmission line. Therefore, ORV access would not increase in previously inaccessible areas. ORV access would increase along the proposed coal slurry pipeline route because it would not run parallel and adjacent to any existing utility corridors and additional roads and staging areas would be required for construction.

Dear Mr. Jensen.

I am writing these words in vehement opposition to the warner valley energy system power plant. As a gardener, carpenter and a person who enjoys the precious life we entertain here in Utah, I cannot support this project. To spoil the land, water and air in such a fertile fruit growing region is indeed a sinfull squandering of precious resources. As a citizen of America and of Utah for twenty-two years I oppose this project and any other that would accelerate erosion, hasten inflation, and ruin the scenic wonders that belong to the future generations of mankind; our children.

Richard S. Cutler

Richard S. Cutler

Response 31-1

Your discussion of this matter is noted and will be considered in the final decision making process.

Aug. 10, 1980

Dear Mr. Jensen,

I am writing to urge you to protect the priceless resources of Southern Utah and to reject development of the Allen-Warner Valley Energy System.

It is clear that this project will damage Pion's air quality, destroy Bryce's visual panoramas, and damage underground water sources. Once damaged, these will not be replaceable.

Alternative energy sources and conservation could easily provide as much or more energy and at a much lower cost. I strongly urge you to adopt alternative #5.

I sincerely hope you will consider this letter in your decision making process.

Sincerely

Peter F. Singer
643 So 1100 E
S.L.C., Ut 84102

Peter F. Singer, Salt Lake City, Utah

Response 32-1

Your views are noted and will be considered in the decision making process.

Martin P. Schweizer
222 Hubbard Ave.
Salt Lake City, Ut 84111

August 12, 1980

District Manager
Cedar City District
Bureau of Land Management
P.O. Box 724
Cedar City, Ut. 84720

Dear Sir/Madame

I welcome the opportunity to comment as a concerned citizen on the Draft Environmental Impact Statement (EIS) on the proposed Alton-Warner Valley (AWV) power project. Your agency has done a fine job in preparing this document.

I strongly support Alternative #5 described in this document, the energy conservation and alternative sources option, for the following reasons:

- 1) Since this alternative does not include construction of the AWV project, the aesthetics of the experience afforded visitors to the Yovimpa Point area of Bryce Canyon National Park will not be seriously compromised by the proposed coal strip mining in the Alton coal fields.
- 2) The Class I air standards will not be threatened by the Warner Valley power plant, with respect to Zion National Park.
- 3) The water resources available to agricultural and ranching interests in Kane County will not be threatened by the proposed coal slurry transport pipeline.
- 4) This alternative is forecast to more than meet the projected power needs of the applicant utilities and agencies. Since recent power demand forecasts generated by the utilities have overestimated demand (Science 1980), alternative #5 becomes even more feasible.

- 2 -

It behooves us, as caretakers of this planet, to protect resources and the environment for generations to come. Plans for energy development should stress renewable sources conservation and inseparable affects on natural areas and systems. I reiterate my support for Alternative #5.

Please include this letter in the final EIS.

Thank you.

Very truly yours,

Martin P. Schweizer

Mr. Martin P. Schweizer, Salt Lake City, Utah

Response 33-1

Your discussion is noted and will be considered in the decision making process. See Chapter 4 of the final EIS for a discussion of impacts that would result from the various alternatives.

34

11 August 1980

Roger Murray
282 Three Degree Rd.
Butler, PA 16001

Dear Mr. Jensen,

I am deeply concerned about the fact that a coal strip mine may be developed in the Bryce Canyon National Park area. The BLM has an obligation to the American people & the people of Utah in particular to see that this project is stopped. Utah is becoming the battleground in America's war for energy independence & it's up to the BLM, National Park Service, National Forest Service, and the people of Utah to see that the irreplaceable treasures (the National Parks) of the west are not sacrificed for the greed of a few.

I hope that my comments will be taken into consideration and that all of those involved will have the foresight to make the wise decision of stopping this mining project.

Please send me a copy of the draft environmental impact statement on the Allen-Warner Valley Energy System.

Sincerely yours

Roger Murray

Rodger Murry, Butler, Pennsylvania

Response 34-1

Your concerns on this matter will be considered in the decision making process.

35

James Kay
4463 Winder Ln
SLC, Utah 84117
Aug 13, 80

Mr. Morgan Jensen
District Manager
Bureau of Land Management
P.O. Box 724
1579 North Main Street
Cedar City, Utah 84720

Dear Mr. Jensen:

I am very concerned to learn that we gluttonous Americans are so desperate for more energy that we are considering the sacrifice of some of this country's most precious & spectacular National park land.

The currently proposed Allen-Warner Valley energy project is riddled with environmental nightmares, which can be completely alleviated if we would only pursue renewable energy sources such as solar, conservation, geothermal, etc.

Dust from the Alton Hills strip mine will obscure the spectacular panoramas of Bryce while the Warner Valley stack effluent will impair the vistas and class I air quality of Zion; not to mention the increased acid rain fallout over Utah

August 12, 1980

and Colorado. This is inexcusable. A price tag cannot be fixed to the values which Zion, Bryce and similar areas hold for mankind.

I urge you to support Alternative 5 - the energy conservation & Alternative Energy Sources Alternative. Being a mechanical engineer involved with energy conversion processes, I am fully aware of the great potential and economic feasibility of renewable energy supplies. We must get our heads out of the 19th Century sand and initiate bold new alternatives for our energy future.

Also, would you please include my letter in the final environmental statement and decision making process for the Allen-Warner Valley energy system.

Thank you.

James Kay

James Kay, Salt Lake City, Utah

Response 35-1

Your views are noted and will be considered in the decision making process. See the Air Quality section under Alternative 1 of Chapter 4 in the final EIS for updated information.

Dear Sir,

I write to you today to voice my most vehement opposition to the proposed Allen Warner Valley Energy System. Southern Utah is one of the most unique and beautiful areas that God has put on our planet and we should think more than twice about projecting our puny human wills (which historically have despoiled vast expanses of the natural landscape) Regardless of current energy demand, (which is a far cry from actual need), this is one area that must remain as a spiritual energy source for generations to come.

I fear that one power plant would not be the end of the ruination of the desert. We must halt here before we awake one day to air choked with fumes, landscapes in chaos, and an ever growing appetite for MORE ENERGY!! I see this project as a waste of precious resources (land, wildlife, air, water and yes energy) and I sincerely hope you will consider my viewpoint when arriving at your decision.

Attentively waiting and watching,
Ben Mates

Ben Mates

Response 36-1

Your views will be considered in the decision making process.

JON W. BEATTY
1734 N. DECATUR #8
LAS VEGAS, NEVADA 89108

District Manager
Bureau of Land Management
Cedar City District Office
Cedar City, Utah 84720

August 13, 1980

Gentlemen,

My comments are directed toward the possible siting of the Allen-Warner Energy System in Southern Utah and in Nevada.

It is my concern that this plant, if allowed to be sited in this area, will have an adverse impact on the environmental quality.

1 This project, as planned, is much larger than is required to serve the needs of the Southern Utah and Nevada areas. The capacity for use by Southern California should be deleted and appropriate capacity be built and sited closer to the point of consumption.

2 One major concern is the probability for visible emissions from the proposed power plant destroying the historical enjoyment of the many parks and scenic areas in the Southern Utah, Northern Arizona areas. These include the Grand Canyon, Bryce Canyon, Zion National Parks, and Capitol Breaks National Monument.

We have already seen the adverse impact of haze on the Grand Canyon originating from large power plants located even further away than the Allen-Warner site.

I therefore urge that you deny use of public lands for the Allen-Warner plant or require the developers to provide strong guarantees to maintain stringent emission controls.

Sincerely,

Jon W. Beatty

Jon W. Beatty, Las Vegas, Nevada

Response 37-1

Refer to the discussion of the energy needs of the AMV participants in the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS. It should be noted that the California utilities are considering several coal-fired powerplants in addition to the AMV project and these other powerplants are proposed for siting in California. (See the discussion of Alternative 6 in Chapter 4 of the final EIS.)

Response 37-2

The proposed Alton strip mine, located approximately 4 to 6 miles from Yovimpa Point, would be a major visual intrusion. Mining activities would generate dust, noise, and air pollutants that would impact recreational and aesthetic values in Bryce Canyon National Park by reducing air quality and visibility. Refer to revised Air Quality sections in Chapter 4.

Emissions from the Warner Valley powerplant, located approximately 20 miles southwest of Zion National Park, could decrease the visual range in the park. For more details, see Response 22-16 and the Recreation and Aesthetics sections of Chapter 4 in the final EIS.

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U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION EIGHT
Utah Division
P.O. Box 11563
Salt Lake City, Utah 84147

August 13, 1980

IN REPLY REFER TO:
HBR-UT

District Manager
Cedar City District
Bureau of Land Management
P.O. Box 724
Cedar City, Utah 84720

Dear Sir:

Reference is made to Mr. Wick's memorandum dated June 23, 1980, requesting comments on the draft environmental impact statement for the Allen-Warner Valley Energy System.

A brief review of the statement indicates (p. 2-31 and p. 4-114) that under the coal transportation system, coal would be moved by rail and trucks. It appears that the railroad with its existing trackage can accommodate the increase in traffic without any new construction. However, the limited discussion regarding the transportation of coal by trucks with respect to the upgrading of the affected roads to accommodate the increased truck traffic appears to be too general.

It is suggested that some discussion be added to further identify what types of improvements to the road system are proposed. The statement (=9, p. A4-7) that "all primary and secondary access roads to plant sites and the coal mine shall be paved" may not be enough. Complete sections may have to be rebuilt. Routes through or near the various towns and cities may require by-passes to reduce the effect of the air and noise pollution caused by the trucks. Finally, with respect to the various types of road improvements that will be necessary during and after construction, the statement should also contain an explanation of how these improvements will be financed.

We trust these comments may aid you in the final preparation of the environmental statement and appreciate the opportunity of this review.

Sincerely yours,

George W. Bohn
Division Administrator

Federal Highway Administration, Salt Lake City, Utah

Response 38-1

See the Alternative 3 section of the Summary, the Coal Transport System section under Alternative 3 in Chapter 2, and the Alton Coal Fields section under Land Use, Land Use Plans and Controls, Alternative 3 in Chapter 4 of the final EIS. The truck coal transportation route has been modified to limit use of State and Federal highways, and to bypass towns and cities.

39

August 14, 1990
BX 443
Baker, Oregon, 97604

Dear Mr. Jensen,

There are few places left in our country where one can see 125 miles and nowhere is the view more striking than Bryce Canyon.

It would be a crime to condemn the view of future generations to hazy memories.

Instead of sacrificing a wonder like Bryce to gluttonous Southern California, whose appetite for electricity is endless, a program should be enacted to clean up that area's air.

The Allen-Warner Valley Energy system must draw the line at the irreplaceable — a panorama of awesome works in spires of orange rock. And such a panorama should not be veiled through air fuzzy with coal residue.

Sincerely,
Pamela Isioin

Pamela Isioin, Baker, Oregon

Response 39-1

Your concerns on this matter will be considered in the final decision making process.

40

P.O. Box 246
Escalante, Utah
84726

Mr. Morgan Jensen
District Manager
Bureau of Land Management

Dear Mr. Jensen,

I am writing you concerning the Allen-Warner Valley Energy System. I am opposed to the system for several reasons. The Alton Coalfield will be easily visible from Yovimpa Point in Bryce Canyon National Park. The view could be obstructed up to 64% by the strip mining operations in the Alton Hills. The Warner Valley Power Plant would be located only 23 miles from Zion National Park. Emissions from this plant ~~for~~ could violate Class I air quality standards.

within the park. I don't² feel that our national parks should be sacrificed for this nation's energy needs. The effects of pumping 6000 gallons per minute of water out of the Navajo aquifer for the coal slurry line are not known. Tests should definitely be performed on the aquifer before the project is passed. I feel that other alternatives should be considered. The California Energy Commission has proposed a preferred scenario which would involve an increasing reliance on cogeneration, geothermal, hydro, wind and solar energy. This program along with conservation measures could supply an estimated 6000 megawatts of power. This is more than twice the amount to be generated by the ANVES. I believe that this is

Alternative 5. I strongly urge you to select this alternative. I also feel that with 84% of the energy going to California, let them build the power plants in their state and leave Utah alone.

Sincerely yours,
Karl W. Fuelling
Karl W. Fuelling

Karl W. Fuelling, Escalante, Utah

Response 40-1

Your views on this matter will be considered in the decision making process.

Response 40-2

Refer to the discussion of Alternative 4 in Chapters 2 and 4 in the final EIS. This alternative was developed by BLM based on CEC reports and publications, and on information provided by CPUC, which was developed in the Certificate of Convenience and Necessity hearings to answer the application by PG&E and SCE for their participation in the ANV project.

41

Kanab, Utah
August 15, 1980

Dear Mr. Jensen,

In regards to the letter that I received for mining on any of my property, where I own mineral or surface rights, I do not appose mining or construction work on it.

I feel like the Alton Coal Project should be opened up and I am in complete favor of it.

Sincerely,
Trevor Leach
Trevor Leach

Trevor Leach, Kanab, Utah

Response 41-1

Your views are noted and will be considered in the decision making process.

42

August 14, 1980

Mr. Morgan Jensen
District Manager, BLM
P.O. Box 724
1570 N Main St.
Cedar City, UT 84720

Please include this letter in the final environmental statement and decision making process for the Allen-Warner Energy System.

Dear Mr. Jensen:

This energy system would be wasteful, extravagant, unneeded, and damaging. Other energy sources such as solar, wind, biomass, and conservation could provide more energy at less cost in the same time period as the Allen-Warner Energy System and not be damaging (also cogeneration).

Its legality is questionable as it would (emissions from it) violate the Class I air Quality standards of Zion National Park while strip mining dust from strip mines in the Alton Hills would reduce visibility at Bryce Canyon's Navajo Point overlook by 64%. To produce the same amount of energy coal is even more toxic than the same amount of uranium ore. A uniquely beautiful area would permanently be scarred for a transient energy source which would be soon spent.

Utah is the second driest state--slurry lines take huge amounts of water which Utah DOES NOT HAVE. Why should be deprived of much of its scanty water supply so it can take slurry and be exported to

Please choose Alternative 5 which be more economical and not damaging. It would provide more energy at less cost than the Allen-Warner Valley Energy System without ruining our beautiful land or depriving Utah of its much needed water--all for an energy source which is imprudent.

Yours truly,
Ethel W. Thornily
Mr. & Mrs. R. Poland, Mr. & Mrs. L. Harwood, Mr. & Mrs. C. Dutcher, Mrs. S. Leonard, Mr. & Mrs. R. Smith, Mr. & Mrs. G. Paddock, Mrs. G. Van, Mr. & Mrs. P. Fountaine, Mr. & Mrs. T. Skidmore, Mr. & Mrs. J. Busch

Ms. Ethel W. Thornily
10651 Larchmont
Detroit, MI 48224

Ethel W. Thornily, Detroit, Michigan

Response 42-1

Your concerns on this matter are noted and will be considered in the decision making process.

August 15, 1980

Cedar City BLM
P.O. Box 724
Cedar City, UT 84720

Dear BLM:

- 1 I would like to make the following comments on the Allen-Warner draft EIS:
I would like to see a separate list of the tables in the table of contents.
This would facilitate referencing this data.

- 2 I am concerned that the affects of alternatives 1-4 are not clearly related to wilderness study areas and the affects on them. There needs to be a detailed analysis in the text, not just a repetition of the same statement in the tables. Besides, this statement only relates to the transmission lines in California, and does not address the fact that alternative 1 (coal slurry line) goes through 8 BLM's in Utah and Nevada. More than just a change in BLM scenic ratings will occur and the loss of wilderness values needs to be analysed. I saw no comments on mitigating the disturbance the slurry line would have.

- 3 The most serious fault of the whole document is the question of timing. The BLM is trying to get this project analysed before a great deal of essential data is available. The most crucial omission is the CPUC study for the need for power. How can these alternatives be considered real when the CPUC study will not be available until after the BLM releases it's final EIS. I find it difficult to impossible to fairly evaluate these alternatives when the underlying assumption in the whole document is that the coal is essential now. The lack of any analysis that California take care of their own energy needs is a serious omission.

- 4 The need for power is unbalanced. I found no reference to the recent downward projections for power in southern California. Cogeneration alone, from CEC figures, will create so much extra power as to make this whole project unnecessary. The matrix of criteria for including an alternative for analysis puts undue emphasis on developing Alton coal.

- 5 To go along with the above I feel that alternatives 5 and 6 need to be expanded so that a balanced list of alternatives can be examined. No positive comments are found in the document for either of these two alternatives. Yet there are many plusses for conservation. The protection of traditional life styles, clean air, continued growth in the tourist sector, ecosystem preservation, no boom town crises for small governments to cope with, continued water availability for ranching, and not making southern Utah a national sacrifice area are all positive benefits to be had from alternatives 5 and 6. Without an examination of these positive affects, this document does not live up to NEPA requirements for an EIS.

- 6 The use of worst case analysis is inconsistent throughout the analysis of alternatives 1-4. Alternative 1 specifically needs to clearly spell out the very real potential of an ecological disaster if this project goes through. When data is lacking, especially for such crucial areas as air quality and water availability, the worse case needs to be clearly spelled out. The question of the synergistic affects of putting more and more coal burning plants in the Great Basin region is not even mentioned.

- 7 For the above reasons, I feel that this document does not fulfill the NEPA and CEC guidelines. I therefore submit that this EIS be redone in draft form after the CPUC study is complete, the OSM has ruled on suitability petition,

and more water data is available. Only after these critical areas have been addressed in greater detail can there be a balanced presentation of the choices for Alton coal. At the present, the underlying assumption in the document is that this coal needs to be extracted as rapidly as possible. The BLM has a responsibility to the public to eliminate this assumption from this document. If this does not occur, the document is worthless.

Sincerely yours,

Rudi Lambrechtse

Rudi Lambrechtse
P.O. Box 72
Bellemont, AZ 86015

Rudi Lambrechtse, Bellemont, Arizona

Response 43-1

As suggested, a list of tables is included near the end of the table of contents in the final EIS.

Response 43-2

Mitigating measures for minimizing possible disturbances created by the proposed coal slurry pipeline can be found in Appendix 4, Applicants' Proposed Design and Operating Procedures, and Appendix 6, Standard Operating Procedures. The status of wilderness inventory in Utah has been revised to reflect updates in the wilderness review process. The proposed coal slurry pipeline is not routed through any wilderness inventory study areas in Utah or Nevada. The pipeline would also not pass through any wilderness inventory units in Nevada.

The Wilderness section of Chapter 4 in the final EIS provides an analysis of impacts on wilderness inventory units.

Response 43-3

BLM has been working in close cooperation with CPUC in the preparation of the AWV EIS. Although the final decision by CPUC will not be made concerning the participation of California utilities until December 16, 1980, the CPUC staff position is included in the AWV final EIS. See Response 22-1 and the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS.

Response 43-4

Your concern about the energy needs of the applicants is discussed in the Purpose and Need of Proposed Project section of Chapter 1 in the final EIS. Alternative 5 (Energy Conservation and the Development of Alternative Energy Sources) was selected and analyzed as a viable alternative to the applicants' proposal, passed the screening criteria, and is analyzed in the EIS.

Response 43-5

The text concerning Alternatives 5 and 6 is changed in Chapter 4 of the final EIS in response to this comment.

Response 43-6

Where data is incomplete or not available, a worst-case analysis has been performed. These worst-case analyses are more clearly identified in Chapter 4 of the final EIS. Cumulative impacts to air quality are discussed in the Chapter 4, Air Quality, Cumulative Impacts section of the final EIS.

Response 43-7

BLM does not make the assumption "that this coal needs to be extracted as rapidly as possible." This document analyzes the impacts that would result from the applicants' proposal (Alternative 1) and several viable alternatives. Three (Alternatives 4, 5, and 6) of the six alternatives involve no mining activity in the Alton coal lease area. Also refer to the Assumptions and Analyses Guidelines in Chapter 4 of the final EIS and Response 43-3.

August 15, 1980
Box 2578
Jackson, Wyoming 83001

Mr. Morgan Jensen
BLM
Box 724
Cedar City, Utah 84720

Dear Sir:

I am writing to oppose the Allen-Warner Valley Energy System. There are many environmental concerns which are the origin of this opposition. The natural resources of Southern Utah are too valuable to be marred by short-sighted energy development which development could be made completely unnecessary by simple conservation.

The proposed Alton Coal field is too close to Bryce Canyon National Park. The vistas from the park overlooks would be unsightly with this coal field there. I have enjoyed these vistas many times and would be upset to say the least to look out on a strip mine.

Proposed slurry lines for this coal would use too much of Utah's precious water, probably adversely affecting local springs and water supplies. The slurry lines traverse fragile desert ecology which is too sensitive to allow spills, etc. Moreover, the air quality in Zion National Park, which is supposed to remain pristine, would probably be adversely affected..

I urge the BIV to select Alternative 5, the Energy Conservation and Alternate Energy Sources Alternative. This alternative will produce a greater yield in energy at less cost than the Allen-Warner Valley system.. I respectfully request that this letter be a part of the final environmental statement. Thank you.

Sincerely yours,



J. Tom Collier, Jr., M.D., Jackson, Wyoming

J. Tom Collier, Jr., M.D.

Response 44-1

Your views on this matter are noted and will be considered in the decision making process.

45

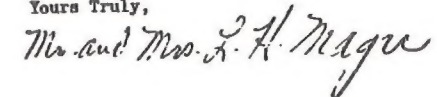
4226 Mathews Way
Salt Lake City, Utah
84117
August 14, 1980

Mr. Morgan Jensen
District Manager, BLM
P.O. Box 724
1579 North Main Street
Cedar City, Utah 84720

Dear Sir:

We strongly urge your selection of Alternative 5 in order to preserve class 1 air quality in Bryce and Zion National Parks and to save ground water.

Yours Truly,



L.H. Magar, Salt Lake City, Utah

Response 45-1

Your view is noted and will be considered in the decision making process.

46



United States
Department of
Agriculture

Soil
Conservation
Service

4012 Federal Building
125 South State Street
Salt Lake City, Utah 84138

August 15, 1980

Mr. Morgan Jensen, District Manager
Bureau of Land Management
P. O. Box 724
1579 North Main Street
Cedar City, Utah 84720

Dear Mr. Jensen:

My staff has reviewed the June 20, 1980 draft Environmental Impact Statement for the Allen-Warner Valley Energy System. Following are our comments regarding items where SCS has interest and expertise.

The brief discussion of soils on page 3-3 points out that the principal soils are easily eroded and extremely susceptible to disturbance. The discussion on page 4-4 quantifies the impact. However, the provisions for control of erosion, conservation management measures, effects of disruption of natural drainage patterns, severance of private land units, and impact on prime agricultural land did not seem to be addressed. Also, loss of grazing caused by project implementation has not been covered.

Detailed information on SCS areas of concern and some additional comments were provided to Mr. Harold Isaacson, Project Manager, on November 10, 1975 and August 10, 1976.

We appreciate the opportunity to review and comment on this draft Environmental Impact Statement.

Sincerely,

John H. McMillan acting
GEORGE D. MCMILLAN
State Conservationist

Soil Conservation Service, Salt Lake City, Utah

Response 46-1

During the scoping process, designed according to CEQ regulations on implementing NEPA, certain environmental elements, including soils, were found to be of minor concern and were treated with considerably less emphasis in the environmental impact statement. Mitigating measures and standard operating procedures (Appendix 6) were designed to minimize as much as possible the impacts to soils during the construction and operation of any project-related components.

47

INSTITUTE FOR BIOLOGICAL ENGINEERING
(AN INTERCOLLEGE INSTITUTE) AND
DIVISION OF ARTIFICIAL ORGANS
DEPARTMENT OF SURGERY
WILLEM J. KOLFF, M.D., Ph.D.
DISTINGUISHED PROFESSOR AND DIRECTOR
DUMAS B. L. DAVIS, Ph.D.
1900 E. 1400th CAMPUS DRIVE
PHONE (801) 581-6200

August 14, 1980

THE
UNIVERSITY
OF UTAH

Mr. Morgan Jensen
District Manager
Bureau of Land Management
P.O. Box 724
1579 North Main Street
Cedar City, Utah 84720

Dear Mr. Jensen:

Being a native of the Netherlands but a citizen of the United States, living in Salt Lake City I have had the opportunity to see and show the wonders of southern Utah to many foreigners. It is inconceivable to them that this beauty should be violated by the establishment of the Allen-Warner Valley Energy System.

Alternative energy sources could be developed. The emissions of the plant could violate the Class I air quality values of Zions National Park.

The dust of the strip mining operation in Alton Hills could obscure the panoramic view of Bryce Canyon.

I am extremely concerned about the 10,000 acre feet of ground water that will be taken from the aquifer that will almost certainly adversely affect the existing water rights and strengths in the area. It is well known that the water level under Palm Springs is sinking. I have personally been in Israel and spoken with experts on water preservation there. The effects of draining the aquifer and the gradual return of some of that water through the ground level enriched with salt contributes to permanent damage of the aquifer. This is the case in several places in the Negev Desert and also in the Gaza Desert.

Alternative 5 seems to be able to provide a greater yield at lower cost.

I request that my letter particularly the section on the adverse experiences in Israel as result of excessive drainage of the aquifer, be included in the final environmental statement at the decision making process for the Allen-Warner Valley Energy System.

Sincerely yours,

Willem J. Kolff
WILLEM J. KOLFF, M.D., Ph.D.

Willem J. Kolff, M.D., Ph.D., University of Utah

Response 47-1

The discussion presented in your letter is noted and will be considered in the decision making process.

Elizabeth R. Hayes

Dear Mr. Jensen:

227 South 13th E.
Salt Lake City, UT 84102

I wish to inform you of my objection
to the proposed Allen-Warner Energy System
and to recommend the selection of
Alternative 5 - The Energy Conservation
and alternate Energy Sources Alternative.
Please include this recommendation in
the final environmental statement and
decision making process for the Allen-
Warner Valley Energy System. Sincerely yours,
Elizabeth R. Hayes

Elizabeth R. Hayes, Salt Lake City, Utah

Response 48-1

Your recommendation will be considered in the decision making process.

August 14, 1980

Morgan Jensen, District Manager
Bureau of Land Management
P. O. Box 724
1579 North Main Street
Cedar City, Utah 84720

Dear Mr. Jensen,

This letter is in response to the Allen-Warner Valley Energy System (AWVES) that is being considered for construction in Southern Utah and Nevada. The Southern Utah site would be located only four (4) miles from Bryce Canyon National Park, which would have a devastating effect on the "scenic quality, clean air, visibility, geologic integrity, native ecosystems, wildlife and a natural setting free from man-made disturbance." As quoted by Glen T. Bean, Director of Rocky Mountain Region of NPS.

Emissions from the Warner Valley plant could violate the Class 1 air Quality values of Zion National Park. The dust from strip mining operations in the Alton Hills could obscure the panoramic visual range of Bryce Canyon's Yovimpa Point overlook by 64%. Thousands of visitors yearly enjoy this spectacular view.

The water quality is also of major concern. Pumping 10,000 acre feet of groundwater yearly for the slurry lines could adversely affect existing water rights to several wells and springs, vital to area residents. The effects of pumping would almost certainly decrease or halt the flow of springs in the area. The slurry lines would require extensive purification before it could be returned to the ground, which would be extremely expensive.

There are more preferred alternatives for energy sources rather than constructing the AWVES project. They include the use of solar, wind, geothermal power and conservation, which could provide a greater energy yield at less cost, in the same time period as the AWVES project. The California Energy Commissions proposed a "preferred" supply scenario for meeting California power needs through 1991. The scenario calls for only 1609 megawatts rather than 2090 as now projected. Implementing the "preferred" scenario involves an increasing reliance on cogeneration, geothermal hydro, wind and solar energy. Cogeneration and conservation programs alone could supply an estimated 6,000 megawatts of power (more than twice the amount to be generated by the entire AWVES).

I would like to have this letter be included in the final environmental statement and decision making process for the Allen-Warner Valley Energy System. Please request that other alternatives of energy sources be utilized in order to preserve the spectacular beauty of Southern Utah.

Sincerely,

Karen Riemony
Karen Riemony
1251 Mt. View Drive
Smithfield, Utah 84335

Karen Riemony, Smithfield, Utah

Response 49-1

Your discussion is noted and will be considered in the decision making process.

50

MR. MORGAN JENSEN
DIST. MANAGER
B. L. M.
P.O. BOX 724
1579 N. MAIN ST.
CEDAR CITY, UT 84720

AUG. 17, 1980

SIR,

I WOULD LIKE TO COMMENT ON
THE PROPOSED ALLEN-WARNER VALLEY
ENERGY SYSTEM. UPON REVIEW
OF THE EIS & RECENT NEWSPAPER
COVERAGE, I MUST LAY MY
DOUBTS ABOUT ITS NEED. AS
I UNDERSTAND IT, THE CALIF
ENERGY COMM. DOES NOT FEEL
THE SYSTEM IS ENTIRELY NEEDED
& THAT CONSERVATION WILL SUBSTITUTE
FOR PROPOSED ENERGY PRODUCTION.

I ALSO HAVE NO DESIRE
WHATSOEVER TO VISIT ZION
NATIONAL PARK WITH DIRTY
AIR, BRYCE NATIONAL PARK WITH
DIRTY AIR & A LOSS OF ITS
NATURAL ~~BEAUTY~~ BEAUTY AND TO
SEE THE VIRGIN RIVER DAMMED
UP.

I SEE NO REASON WHY THE

STATE OF UTAH MUST PAY
THE CONSEQUENCES OF AN
ENERGY SYSTEM THAT
WILL SHIP 95% OF ITS
PRODUCT TO PLACES OTHER
THAN UTAH.

I URGE YOU TO CHOOSE THE
CONSERVATION ALTERNATIVE PROPOSED
& HOPE THAT MY COMMENTS
WILL BE INCLUDED IN YOUR
FINAL REVIEW PROCESS.

THANK YOU.

SCOTT GUTTING

465 N. 300 E.

LOGAN, UT 84321

Scott Gutting, Logan, Utah

Response 50-1

Your comments are noted and will be considered in the decision making process.

Dear Dist Manager,

Enclosed is a copy of my testimony presented at the Kanab public hearing on the Allen-Warner Valley Energy System.

Please include the comments in the Final EIS.

Thank you,

Steven J. Mueller
13 Aug 1980

Topic: Allen-Warner Valley Energy System Environmental Impact Statement Draft
Comments prepared by Steven J. Mueller for presentation at the public hearing in Kanab, Utah. 30 July 1980

My name is Steven J. Mueller. I teach biology and geology at Jordan College in Michigan. I am here representing myself. Since the conclusion of my professional training, I have been conducting research for eight years on various aspects of natural history in the vicinity of the Dixie National Forest and Bryce Canyon National Park.

Power generation of the proposed Allen-Warner Valley Energy System will result in sulfur and nitrogenous emissions that will become acid rain. Prevailing westerly and southwesterly air movements will precipitate acid rain generated by the power plants on the high plateaus of the Dixie National Forest and surrounding areas. Alkaline rock formations at Bryce Canyon National Park will prematurely be decomposed in the process of neutralizing the acid. Superficial studies and references have been made in the Environmental Impact Statement on the effects of acid precipitation on the region. The impact statement concludes the effects of acid rain from the Allen-Warner system will be insignificant provided its the only system in the region. As we already know there are other generating plants in the area including the world's large plant to be built in northern Arizona. Ninety percent of the lakes in the Adirondack Mountains can no longer support fish life. Some areas in the east have received rain with a pH of 1.4--the acidity of stomach acid. The President's Counsel on Environmental Quality recently stated that acid rain is the world's second most serious air pollution problem. Ten years ago acid rain was virtually unknown. It has become the world's second most serious air pollution problem so rapidly as a result of increased energy consumption and the use of high sulfur coals. The effects are much more devastating than most pollution sources because it destroys the most fundamental herbivore components of the food chain, those being insects and amphibians in raparian habitats. When these are eliminated all forms of life higher in trophic level are eliminated. This interrupts natural biogeochemical cycles affecting nutrient availability and energy flow through the ecosystem. Leaching of chemicals due to acid precipitation may contaminate aquifers.

Based on acid precipitation alone, supporters of the Allen-Warner Valley Energy System should withdraw their support.

My research studies published in 1979 establish factual data that descriptive biology of the region is extremely incomplete. For example: an important taxonomic group of organisms that are vital for pollination and as food for other organisms such as birds, small mammals, and predatory and parasitic insects are the butterflies. Their role should not be underestimated in terms of ecosystem energy conservation and nutrient retention. Prior to my publication only 25 species of butterflies were known to inhabit these high plateaus. Now 63 species are documented. Even less is known about the species that inhabit the Bureau of Land Management lands in the vicinity of the proposed strip mine. An understanding of regional ecology depends upon a more complete descriptive biology. In the impact statement it says prior to disturbance of the area a descriptive inventory will be made. A competent work in this area will most likely take decades. This descriptive data needs to be collected prior to approval of the project.

The region's remoteness and distance from major ecological investigation institutions have left the ecosystem as one of the least understood in the country.

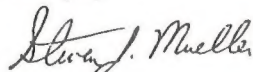
Plant growth estimates have been greatly over estimated as can be witnessed by examining regional pine plantation growth and projected harvest dates. Vegetation growth potential is greater in the high plateaus because of greater precipitation. Since accurate growth potentials have not been determined, mine site reclamation potentials cannot be determined.

Land reclamation efforts along the overgrazed East Fork of the Sevier River during the 1930's have had poor results. Reclamation by overgrazing is not as disastrous as strip mining and yet will take hundreds of years to recover if it recovers. The proposed strip mine area has less reclamation potential than the East Fork of the Sevier river based on precipitation quantity.

Mountain lions summer in Bryce Canyon National Park and winter south of the park. This data is based on actual lion sightings and track and scat observations. Lions are sighted by visitors about three to six times a summer and the knowledge of lion presence provides visitors with the idea the land is still healthy. If the strip mine is permitted mountains ^{lions} Very likely may be eliminated from Bryce Canyon National Park. That would be a removal of one of the park most valuable resources.

Competent studies resulting in valid conclusions on the effects of the Allen-Warner Valley Energy System on the ecosystem in the vicinity of the strip mine can not be accomplished in five years. It will likely take another half of a century to make conclusive statements that are valid. As stated by the representative of Nevada Power Company (John Aldridge), studies on effects of the energy system on the environment are not complete enough for valid conclusions. Based on this it is not reasonable to build power plants or strip mine in the near future. By the time we have adequately studied the ecosystem, we should have developed alternative sources of energy production to use in large scale such as solar and reconstituting wind energy.

Thank you,



Steven J. Mueller

Steven J. Mueller, Bryce Canyon, Utah

Response 51-1

The Air Quality sections of Chapter 4 in the final EIS acknowledge that the acidity of precipitation could be increased as a result of the proposed AWV project. However, because the study of acid deposition, especially in the western United States is in its infancy, it is not possible at this time to accurately quantify impacts from the proposed project.

Exposure to atmospheric sulfur compounds can cause blistering, scaling, and loss of surface cohesion in limestone (of which the Bryce Canyon formations are composed) and sandstone. However, because the project must meet the very stringent Class I PSD increments for SO₂ at Bryce Canyon, significant increases in atmospheric sulfur compounds would not be expected to occur.

In cases where soils suffer from sulfur and nitrogen deficiencies, beneficial effects from acid deposition may actually occur. Several networks to monitor atmospheric deposition have recently been established and increased funding has been made available to study the causes, transport, and effects of acid precipitation. For more information see The Federal Acid Rain Assessment Plan (draft report) prepped for the Council on Environmental Quality, 722 Jackson Place, NW, Washington, D.C. 20006.

Response 51-2

Cursory inventories of the project sites have been conducted by qualified BLM personnel. These inventories have been conducted primarily to locate and identify areas which have threatened or endangered plant and animal species and are not intended to be complete biological inventories. Only portions of the 12,400-acre Alton coal lease area would be disturbed at one time. Habitat for some species would be lost while habitat for other species would be favored. The loss of 12,400 acres in the coal lease area is not expected to cause a significant reduction in bird, small mammal, or insect populations.

Response 51-3

Plant growth and reclamation potentials have been studied in the Alton coal lease area by Frischknecht and Ferguson (1976-79). Several revegetation methods were studied to determine which types of treatments would be most successful with natural precipitation. All treatment methods were successful with introduced grass species being the most productive. Production in terms of pounds per acre has been calculated over a 4-year period.

The history of revegetation efforts along the East Sevier River is not known; however, the effects of overgrazing are usually rapidly corrected by the exclusion of livestock along riparian areas.

Response 51-4

Recent studies conducted by UDWR have indicated that mountain lions in southern Utah have very large home ranges, covering thousands of acres and many different habitat types. The strip mine 4 miles away from Bryce Canyon National Park would undoubtedly have some impact on the mountain lions of the area. However, due to their mobility and use of large, relatively unpopulated areas, their use of Bryce Canyon National Park would not be expected to change significantly.

Response 51-5

Studies conducted concerning revegetation of disturbed areas in the Alton coal lease area indicate that revegetation can be accomplished. The text is changed in the final EIS to include measures which would help reduce the time required for vegetation establishment. See the Vegetation: General section of Chapter 4 in the final EIS.



Southern Nevada Conservation Council

5251 Rambling Road

Las Vegas Nevada 89120

August 15, 1980

District Manager
Cedar City District
Bureau of Land Management
P. O. Box 724
Cedar City, Utah 84720

Dear Sir:

1 [The Southern Nevada Conservation Council would like to comment on five areas we feel have not been adequately addressed in the Draft Environmental Impact Study for the Allen-Warner Valley Energy System. Our main concern is that the comment period be extended until 90 days after the completion and publishing of the California Public Utilities Commission Assessment of the Southern California power needs from the Warner-Allen Project.

2 [The Council is very concerned about deterioration of the air quality of the lands east of the proposed Warner-Allen Plant, with particular attention directed to the Valley of Fire, Nevada State Park. We feel that local (Clark County, not Carson City) monitoring of compliance is mandated and this requirement should be included in the selected alternative.

3 [Our concern for the Las Vegas Wetlands and the proposed Wetlands Park is with the timing of the completion of the AWT Plant. Should the Harry Allen Water withdrawal be instituted prior to the completion of the AWT Plant serious detrimental effects to the Vegas Valley wetlands are probable.

4 [The Council would like to also express concern for the lands of adequate safeguards for the water supply of the lower Virgin River. The impounding of water in the upper region without such safeguards could have serious detrimental effects on the aquatic habitat of the lower Virgin River during relatively dry years.

District Manager
Page Two

5 [Finally, the Council would like to address the continued built up of transmission lines within the Las Vegas corridor. Our concern centers around the lack of a completed master plan. Without thorough knowledge of what is intended over the next three decades it will be impossible to give adequate and proper attention to projects such as the proposed gas transmission lines which will use the same corridor.

Thank you for the opportunity to submit comments on this matter.

Sincerely,

Robert W. Maichle

ROBERT W. MAICHLE
Chairman

Robert W. Maichle, Chairman, Southern Nevada Conservation Council

Response 52-1

Although the CPUC document mentioned is related to the AWW power project, the AWW EIS is not dependent on this document for data. Therefore, the comment period was not extended. Also see Response 43-3.

Response 52-2

Clark County has jurisdiction over all air pollution sources except electric generating facilities, over which the State has jurisdiction. While it is recognized that monitoring would be done more easily from Clark County than from Carson City, a change in Nevada law would be required to delegate this responsibility to Clark County.

Response 52-3

The Clark County AWT plant is presently under construction and will be completed prior to effluent transfer to the Harry Allen powerplant. The present discharge of approximately 66 million gallons per day in the Las Vegas Wash would not be significantly altered. The Las Vegas wetlands and the proposed Wetlands Park would not be affected by transfer of effluent from the AWT plant to the Harry Allen powerplant. See the Dry Lake, Nevada and Las Vegas Wash section, Water Resources under Alternative 1 of Chapter 4 in the final EIS.

Response 52-4

The impacts to the aquatic habitat of the Virgin River have been studied by USFWS and the results of these studies are summarized in the Wildlife: Species of Concern Sections in Chapter 4 of the final EIS.

Response 52-5

The Las Vegas District of BLM is currently working on the establishment of designated transmission and pipeline corridors as part of its Clark County Planning System. The planning process is multifaceted and includes public participation at various levels, including the Clark County Grazing EIS, currently scheduled for publication in draft form April 24, 1981. The grazing EIS will include an analysis of designated corridors and their impacts to grazing allotments. Anyone interested should contact the BLM Las Vegas District Office. See the discussion concerning BLM planning in the Land Use, Land Use Plans and Controls section in Chapter 3 of the final EIS.

Aug. 18, 1980

Mr. Morgan Jorden
District Manager
Bureau of Land Management
P. O. Box 724
1379 North Main Street
Salt Lake City, Utah 84120

Dear Sir:

Just two weeks ago I revisited Zion and Bryce Canyons. It was my pleasure to show-off the unique and awesome beauty to friends from out-of-state. Our visitors were overwhelmed with the boldness of Zion and the delicacy of Bryce. I have visited these areas many times and each time I'm overcome with nature's magnificence, as I sat overlooking Sunset Point at sun set and dusk I could hardly comprehend that man would dare propose destruction to this Wonder of Wonders. The A.W.V.E.S. as proposed would surely cause destruction and disfigurement to Zion & Bryce.

Please include my letter in your final environmental statement and decisions I want to publicly go on record as opposing A.W.V.E.S. I'm certain that with all the intelligence and skill available in America alternative energy sources are available that would build rather than destroy. Strip mining would ruin the beautiful scenery values of these areas in addition to destroying the vast visual range of observation.

To date no one knows the disastrous effects that would result from the excessive use of groundwater. Local residents could be adversely affected as their wells and spring dry-up. Also, what would happen to the vegetation?

I propose that the BLM select alternative #3. This is far superior to the A.W.V.E.S. For less money we could have a greater energy yield under this plan.

Sincerely,

Mrs. Miriam P. Beard
8648 La Cresta Dr.
S. L. C. Utah 84121

Meriam P. Beard, Salt Lake City, Utah

Response 53-1

Sunset Point in Bryce Canyon National Park overlooks the Pink Cliffs to the east. The eastern portions of the Alton East coal lease area proposed to be mined cannot be viewed from Sunset Point. For additional information concerning the possible impacts of the Alton coal lease areas on Bryce Canyon National Park, see the discussion in the Recreation and Aesthetics sections in Chapter 4 of the final EIS.

Response 52-2

Your discussion on this matter is noted and will be considered in the decision making process. For more information on your concerns refer to the OSM draft Southern Utah Petition Evaluation Document (USDI, 1980).

Jacqueline Wolff
1624 N. Wilcox
Hollywood CA 90024

August 16, 1980

Mr. Morgan Jensen
District Manager
Bureau of Land Management
Cedar City, Utah

Dear Mr. Jensen,

I was amazed that Alternative 5-Energy Conservation and Alternative Energy Sources- was discussed at all in the Draft EIS on the Allen-Warner Valley Energy System. It would be marvelous if the potential impacts on air quality and hydrology were sufficient to stop the AWV project in the form of any of the First Four Alternatives, but luckily the DEIS has provided a formidable argument against the project on purely economic grounds that even the most disinterested consumer can respond to. The highest oil displacement, creation of surplus power above the potential of the AWV, and especially the lowering of overall energy costs to the consumer (S-15) are no more hypothetical than the stable fuel price structure touted as the selling point for the First Four Alternatives. Recently SCB asked for rate increases because of, among other reasons, the rising price of coal, at a time when coal was a glut on the market; the effects of coal export prices on domestic rates if there will be any difference are unknown, at least to the general public; there is no guarantee that, in some form or other, the taxes on electrical generation and other compensatory demands that the State of Utah brought (or considered bringing) against the IPP will not be applied to AWV, possibly by Nevada too, and not entirely without justification. I cannot find any promise of stability other than a steady increase in fuel bills.

Another convincing argument against the AWV Project, in my opinion, are the visual simulations of visibility impact on Zion (Figs. H-1 and H-2). The rendition of reduced visibility by a television, or a computer terminal, effect (scan lines), with the TV image's squashing of depth perception, detail and local color, overall of definition and articulation presumably

compensated by the ability to transmit the same diminished or ionized image anywhere in mass quantities, is as eloquent a demonstration of how air clarity and visibility range can reflect clearly and farsightedness of thought as applied to the outside world, or collective myopia, as one could hope to find. Your photographs of the plant sites as is and retouched with the powerplants in place are very effective in illustrating the intrusion upon the natural area in highly graphic terms and painterly methods - very well done. But was there any important reason why closer elevation views of the plants were never provided along with the simulations, photographs, ^{plans} and maps, as there were no pictures or drawings of the Altam coal fields - because I wonder if just seeing the four points of so much environmental havoc, the structures divorced from any use or physical weight, might not trigger some feelings as to their validity. Otherwise the economic impacts, because they represent experiences understood by almost everyone, become the most striking considerations in an environmental impact statement.

A photograph of the Virgin River, especially through the Gorge would dispel any notion that the river is the center through the Washington County Water Conservancy District would doubtless prefer it to be - what the AWV Project proposes to do to that river is surely as worthy of controversy as strip mining in view of a National Park - without some visual clue to the Virgin River in its present state, the most striking images from the detailed study of diversions and flow reductions become that of the exploration itself in a very tidy graph. Personal contact with the Las Vegas to Zion National Park area allows me the concern and interest to read the Draft EIS and hopefully appreciate some of the potential impacts, but the need for adequate visual representation in defense of the natural resources, to bolster their importance, is very apparent in your statement. The project itself and its economics lend themselves

over, please

very well to verbal discussions, which also serves to enhance them. The discussion of Alternative 5 is really exceptional in that the conclusions reached actually negate the AWW Project on its own terms, at least on paper. Hopefully that will be sufficient.

Sincerely
Jacqueline Wolff

Jacqueline Wolff, Hollywood, California

Response 54-1

The visual simulations of the Warner Valley and Harry Allen powerplants were only portrayed from areas where the public would most likely view the proposed powerplants. From these areas, specific details would not be discernible. However, the facility layout plans are provided for both powerplants in Chapter 2.

Visual simulations of the Alton coal field are provided in the draft OSM Southern Utah Petition Evaluation Document (USD, 1980).

OAKLEY E GORDON
224 IOWA ST
SALT LAKE CITY UT 84102

Mailgram

4-0212995231 08/18/80 ICS 1PMRNCZ CSP PRVB
801 581 6530 PGM TDRN SALT LAKE CITY UT 124 05-18 1140A EST

MORGAN JENSEN
PO BOX 124 1579 NORTH MAIN ST
CEDAR CITY UT 84720

MR JENSEN,
AS A CITIZEN OF THE STATE OF UTAH, I WOULD LIKE TO EXPRESS MY GREAT CONCERN ABOUT THE ALLEN-WARNER VALLEY ENERGY SYSTEM. I AM PARTICULARLY AGAINST STRIP MINING IN THE ALTON HILLS AND THE WARNER VALLEY PLANT DUE TO THEIR HARMFUL EFFECTS ON THE SCENIC QUALITY OF THE MOST BEAUTIFUL AREA IN THE LAND. I URGENTLY REQUEST THAT THE BLM SELECT ALTERNATIVE FIVE AS ALTERNATIVE ENERGY SOURCES COULD PROVIDE THE SAME AMOUNT OF ENERGY WITHOUT UNNECESSARILY SACRIFICING OUR NON-RENEWABLE HERITAGE. OUR NATIONAL PARK SYSTEM. I REQUEST THAT THIS MAILGRAM BE INCLUDED IN THE FINAL ENVIRONMENTAL STATEMENT AND DECISION MAKING PROCESS FOR THE ALLEN-WARNER VALLEY ENERGY SYSTEM.
SINCERELY,
OAKLEY E GORDON

1144 EST

MMHCOMP MMH

Oakley E. Gordon, Salt Lake City, Utah

Response 55-1

Your views are noted and will be considered in the decision making process.

Box 144
 Kanab, Utah 84741
 August 17, 1980

Bureau of Land Management
 P. O. Box 724
 Cedar City, Utah 84720

Dear Sirs:

I am writing this letter to let you know that I am definitely against the Allen-Warner Valley Energy System. The whole proposition just doesn't make sense to me. Just some of my reasons are below:

- 1 [There is coal all over the place, why start in Bryce Canyon?
- 2 [It is a low grade coal, will it be worth the cost?
- 3 [There isn't enough water.
- 3 [There will be air pollution plus visibility pollution in Bryce.
- 3 [There could be damage to the area from the mining operations.
- 4 [There is no way to really restore the area.

I could go on, but I know you've heard all the arguments. I really do believe that with all the unsolved problems nothing justifies the mining of low grade coal.

Sincerely yours,

Florence J. Mace

Florence J. Mace

Florence J. Mace, Kanab, Utah

Response 56-1

Nevada Electric Investment Company (subsidiary of NPC) and UII wish to develop their State, Federal, and private leases in the Alton coal fields. These leases are not within Bryce Canyon National Park, but are adjacent to the park, approximately 4 to 6 miles from the park boundary.

Response 56-2

Your concern is addressed in the Coal Mine section under Alternative 1: Applicants' Proposed Action in Chapter 2 of the final EIS. This section discusses the heat value and availability of the coal.

Response 56-3

Your views are noted and will be considered in the decision making process.

Response 56-4

Your concern about restoration is addressed in Response 6-1.

St. G. 8-17-80

District Manager
B & M
Cedar City

re: Allen-Warner Valley
Energy System.

Dear Sir,

I was unable to attend the meeting on July 31st in St. George, but would like to express my feelings.

I definitely see that this Project will be of benefit and hope it passes. We can not stop progress if the energy is needed if the work too. I believe it is

time that the environmentalists are put in place and progress can go on.

It's nice to preserve nature, but to spend the taxpayer's money to worry about the turtles in the desert and other inhabitants, there is plenty of desert left for them.

The people who live here should have the right to say what's done if not the outside environmentalists. Most of us in this community feel this way of hope to be heard.

yours truly
Elfil Montes

Elfil Montes

Response 57-1

Refer to the Purpose and Need of Proposed Project section of Chapter 1 in the final EIS regarding the need for power.

The desert tortoise has recently been classified as threatened by the USFWS. This gives the tortoise legal status, and therefore, by law the expected impacts to it and its habitat must be analyzed.

358 S. 500 East
S.L.C., Ut 84102
August 18, 1980

Mr. Morgan Jensen
District Manager
Bureau of Land Management
P.O. Box 704
1579 N. Main Street
Cedar City, Ut 84720

Mr. Morgan Jensen,

This is my first letter to B.L.M., although I've felt tempted to write many times before. I understand that these letters do make a difference, and I trust you'll consider my opinion.

The Allen-Warner Valley Energy System appears to be another case of government rushing into action without heeding the true results. I have been to Bryce Canyon once and Zion's National Park twice. In fact, I remember the view from Bryce's Yovimpa Point Overlook after three years. Zion's is one of my favorite Springtime vacations.

New power plants are becoming more and more cost-inefficient to construct. The amount of power used by Utahns could be generated by other sources. Power companies are rapidly gaining notoriety for overestimating future needs and neglecting common-sense conservation measures. There is clearly not enough evidence to threaten a fragil desert eco-system, an area of the U.S. that deserves loving protection rather than exploitation.

I would ask B.L.M.:

- 1) do not disturb the air quality of Zion's
- 2) do not allow strip mining and blasting in the Alton Hills
- 3) do not allow an additional 10,000 acre feet of ground-water per year to be pumped for coal slurry lines
- 4) investigate alternative energy sources
- 5) select "Alternative 5" from the California Energy Commission assessment

Please include this letter in the final environmental statement and decision making process for the Allen-Warner Valley Energy System.

Sincerely,

Bill Walsh

Bill Walsh

P.S. See what you can do to stop MX also. Thank-you

Bill Walsh, Salt Lake City, Utah

Response 58-1

BLM has been processing the applications for rights-of-way for the proposed AWV energy system since its inception in 1973. Many technical reports and environmental assessments have been prepared in assuring that the aims of NEPA (1969) will be met to the fullest extent possible. Assessments required under NEPA include analyses of environmental impacts, alternatives to the proposed action, energy needs and energy efficiency, socioeconomic impacts, etc., which are contained in the final EIS.

Eric Rexstad, Logan, Utah

Response 59-1

Your concerns are noted and will be considered in the decision making process.

17 August 1980

Eric Rexstad
474 North 600 East
Logan, Utah
84321

Mr. Morgan Jensen
District Manager, SLM
P.O. box 724
1579 North Main Street
Cedar City, Utah 84720

Dear Mr. Morgan:

I am writing in regard to the proposed Allen-Warner Valley Energy System (AWVES). On a vacation this summer I had the opportunity to visit both Zion and Bryce Canyon National Parks. I am greatly concerned about the possible impact this project may have on these areas.

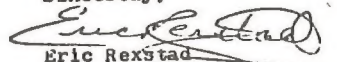
In particular, fugitive dust from the coal mining operation would severely impair the scenic views in the Bryce Canyon area. I am also concerned about the degradation of the air quality in Zion and the diversion of the Virgin River to cool the Warner Valley Power plant. This water question is compounded by the additional demands placed on these scarce resources by the coal slurry lines and the proposed MX missile system.

As an alternative, I would recommend the investigation of solar power and conservation measures, Alternative 5. This would provide a greater energy yield at a lower cost than the proposed development.

I would ask that my views be included in the final environmental impact statement and be considered in the decision making process. In addition, to remain informed on the developments in this issue, I would appreciate it if you could provide me with a copy of the final EIS when it is released.

Thank you for your time and consideration.

Sincerely,


Eric Rexstad

60

DONALD L. "PAT" SHALMY
Director

DAVID G. HOUSTON
Assistant Director

CLARK COUNTY DEPARTMENT OF
COMPREHENSIVE PLANNING
300 SO FOURTH STREET (702) 368-4181
VALLEY BANK PLAZA SUITE 308
LAS VEGAS, NEVADA 89101

August 18, 1980

District Manager
Cedar City District
Bureau of Land Management
P. O. Box 724
Cedar City, Utah 84720

Attention: David F. Everett, EIS Team Leader

**DRAFT ALLEN-WARNER VALLEY ENERGY SYSTEM
ENVIRONMENTAL IMPACT STATEMENT**

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement for the Allen-Warner Valley Energy System. BLM's efforts in evaluating impacts and in preparing the DEIS should be commended. The report is comprehensive yet scoped to respond to the Council of Environmental Quality Regulations (Federal Register, November 29, 1978) regarding preparation of EIS's.

Our review concludes that the proposed project has positive economic impacts on Clark County and has compelling arguments for support on the basis of fuel displacement as well as long term electricity supply guarantees for Clark County residents. These positive impacts however, must be balanced against the negative impacts of environmental degradation. Consequently, the following comments are targeted toward the information required to adequately characterize the projected environmental impacts, particularly as they relate to Clark County environs.

Three specific resource issues are of concern: air quality, endangered species, and water resource management. Additionally, performance controls for impact mitigation are especially important in selected environs with unique sensitivity. To aid in clearly articulating our concerns, comments are separated into the categories denoted above.

AIR QUALITY

Concern is expressed relative to the magnitude of emissions of oxides of nitrogen and sulfur from the Allen Plant (NO_x emissions of 50,000 tons per year (TPY) compared to total NO_x emissions in Las Vegas Valley of 25,000 TPY) and the potential impacts on the Las Vegas Valley airshed, particularly those associated with ozone and aerosols. The evaluative tools used for preparation of

COMMISSIONERS

SAM BOWLER, Chairman • DAVID R. CANTER, Vice-Chairman
ROBERT N. BROADBENT, MANUEL J. CORTEZ, THALIA M. DONDERO, JACK R. PETITTI, R.J. "DICK" RONZONE
BRUCE W. SPAULDING, County Manager

David F. Everett
Bureau of Land Management

-2-

August 18, 1980

the EIS fail to characterize with any certainty whether the plume of emissions entering Las Vegas Valley would scavenge ozone or act as precursors to ozone formation. Additionally, irrespective of the ozone question, nitrate and sulfate formations will take place, thus impacting visibility in Las Vegas Valley.

It is requested that additional effort be directed toward predictively characterizing impacts on ozone and aerosols in Las Vegas Valley.

ENDANGERED SPECIES

It is noted with some concern that the evaluation of endemic fish species of the Virgin River, currently protected as endangered, has yet to be completed by the U. S. Fish and Wildlife Service. This information is important to Clark County as it relates to water quality standards and agricultural interests within Virgin Basin.

Consequently, it is requested that full consideration be given to potential impacts and that associated documentation be provided in the Final EIS.

WATER RESOURCE MANAGEMENT

It is noted (pages 4-40) that the Allen Plant would be protected from a 50-year flood event. Recognizing that current regulatory and planning activities target storms of 100-year intensity and frequency there is uncertainty with respect to Flood Insurance requirements. The Flood Insurance Administration requires participating local entities to comply with the regulatory protocol of restricting development within the 100-year floodway and protecting developments within the 100-year floodway fringe.

Additional flood protection up to a 100-year storm event should be evaluated.

It should be noted that the Reclaimed Wastewater Purchase Agreement, which provides for delivery of water from the County AWT Plant to the Allen Plant, is being updated to reflect current construction timetables, quantity and quality considerations, and payment provisions. The agreement is expected to be finalized and endorsed before commencement of construction.

PERFORMANCE CONTROLS

Mitigation measures for impacts are of significant concern within Clark County especially in the areas of Rainbow Gardens and Las Vegas Wash.

Applications for use permits relative to construction of electrical transmission lines and appurtenances have previously been filed with the Clark County Planning Commission by proponents of both the Intermountain Power Project and the Allen-Warner Valley Energy System. Following the Planning Commissions recommendation, County staff from this office and the Department of Parks and Recreation met with proponents of the projects to identify specific measures which could minimize incompatible uses and negative impacts associated with transmission line construction.

David F. Everett
Bureau of Land Management

-3-

August 18, 1980

Specific recommendations relative to the transmission corridor are:

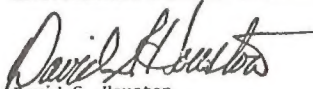
- a) The right-of-way for corridor size should be held to a minimum to reduce visual intrusion in the proposed Las Vegas Wash Wetlands Park and the Rainbow Gardens area.
- b) Transmission towers should be aligned (consistent with safety and design considerations) in one plane to minimize visual impacts.
- c) Noise from the transmission lines should be minimized.
- d) Existing access roads should be used wherever possible.
- e) DEIS Appendix 6 recommendations should be followed, particularly as they relate to archaeological/paleontological resources, soil exposure, and revegetation.

In addition to the recommendations above, it is requested that Clark County be allowed a continuing right of public access and physical entry to any lands subject to the right-of-way located within the boundaries of the proposed Clark County Wetlands Park and surrounding environs. Public access to these areas is necessary for development of equestrian and hiking trails and to ensure the public of unrestricted recreational use.

Again, we commend you on your efforts and appreciate the opportunity to comment. If additional information or clarification relative to our comments is needed, please feel free to contact this office.

Sincerely,

COMPREHENSIVE PLANNING DEPARTMENT


David G. Houston
Assistant Director

DGH:sg

cc: County Commissioners
Bruce Spaulding - CCM
Granville Bowman - CCPW
Michael Naylor - CCHD
Dick Serdoz - NDEP

Clark County Department of Comprehensive Planning, Las Vegas, Nevada

Response 60-1

Refer to the Purpose and Need of Proposed Project section of Chapter 1 in the final EIS for a discussion concerning the need of the project and fuel displacement.

Response 60-2

Refer to Response 5-1 for a discussion of the topic of your concern.

Response 60-3

The USFWS has submitted its biological opinion concerning endangered species of the Virgin River. This information includes data concerning water quality and is included in the final EIS in Appendix 15. See also Chapter 4, Alternative 1 Wildlife Species of Concern.

Response 60-4

NPC analyzed the runoff generated by a 50-year precipitation event, but no similar analysis has been made for a 100-year precipitation event.

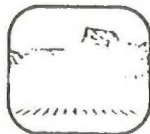
Response 60-5

Thank you for the information. The text has been revised as shown in Chapter 3, Dry Lake, Nevada and Las Vegas Wash section of the final EIS.

Response 60-6

The applicants' Proposed Design and Operating Procedures (Appendix 4) and Standard Operating Procedures (Appendix 6) in the final EIS provide procedures which apply to Alternatives 1 through 5. See the Recreation and Aesthetics section of Chapter 4 in the final EIS for a discussion concerning the Las Vegas Wash and Rainbow Gardens.

HERBERT B. BENTLEY
County Recorder
E. ROYDEN CHRISTIAN
County Auditor
PAUL R. GRAF
County Attorney
BEULAH McALLISTER
County Treasurer
RALPH CHRISTENSEN
County Assessor
EUGENE S. JONES
County Sheriff
MARJORIE HOWELL
County Clerk



Washington County
197 East Tabernacle, St. George, Utah 84770

COMMISSIONERS
G. MURRAY WEBB
Chairman
JERRY B. LEWIS
LYMAN W. GOSLER

August 18, 1980

Mr. Morgan Jensen
Director
Cedar District BLM
1579 North Main
Cedar City, Utah 84720

Dear Mr. Jensen:

1 We the Washington County Commission do not feel that the Warner Valley Project is our number one choice of electric generating plants. We would rather see another dam going on the Colorado River between Lake Mead and Lake Powell, using the water for power purposes only, and use the energy generated with no pollutants of any kind. It would, however, cause roads to be built in the area of the dam.

2 Due to the air quality surveys that have been run within the area of the proposed Warner Valley Project site, those studies indicate that there is no problem with air quality pertaining to this important project. Those same studies would indicate (and they have been going on for better than two years) that due to un-graded pollution control mechanisms, there would be no contamination or change in air quality specifications as set forth in the Rare 2 act.

3 We know, due to environmentalists, bureaucrats and minority groups, this plan is entirely impossible. Therefore, we as the Washington County Commission do support the Warner Valley Project in its entirety, because we feel that we would rather have power and light than we would be in the dark. The block of power now owned by St. George City, Dixie REA and Cal-Pac has almost been exhausted, with the accelerated growth that we are experiencing in Washington County. We feel it is necessary to start preparing now for the future rather than having our people in need with no power available. We definitely feel that the reservoir portion of the Warner Valley Project would nearly double the water recreational facilities of our county. Also, it would give us much needed water for the future growth of Washington County, because water is the life blood of our county.

4 We feel, also, that the power plant itself would more than double the taxable income to Washington County. We also feel that with modern equipment, the smoke and most air pollutants could be controlled to the point that it would not change the air quality in our area.

Washington County Commission, St. George, Utah

Response 61-1

This alternative was considered (Alternative 46 in Appendix 2) during the initial alternative screening process but was not analyzed because of a lack of specific data.

Response 61-2

See the Air Quality section under Alternative 1 of Chapter 4 in the final EIS, which shows that air quality studies done near the Warner Valley site were not adequate to insure that problems with air quality would not exist. This section also discusses the unresolved air quality concerns regarding the proposed Warner Valley site.

Response 61-3

Your views are noted and will be considered in the decision making process. The purpose and need for power and water portions are reevaluated in the final EIS in response to the comments received on the draft EIS. See the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS as a reflection of this change.

Jim Crawford
295 Bullock Place
Cedar City, Utah 84720

Mr. Morgan Jensen
August 18, 1980
Page 2

The plant itself would give opportunity for many jobs for our youth in our area, with the proper training to be developed at Dixie College.

We know, there are some who do not agree with the Warner Valley Project, but with the pluses in favor of this project, we the Washington County Commission want to once again pledge our support for this very important project.

Thank You.

WASHINGTON COUNTY COMMISSION

G. Murray Webb
G. Murray Webb
Chairman

Jerry B. Lewis
Jerry B. Lewis
Commissioner

Lyman W. Gubler
Lyman W. Gubler
Commissioner

GMW:cs

cc: Jeannine Holt

Response 61-4

Your views are noted and will be considered in the final EIS. These concerns are addressed in the Socioeconomics section under Alternative 1 in Chapter 4 of the final EIS.

Morgan Jensen
District Manager
Bureau of Land Management
159 North Main Street
Cedar City, Utah 84720

August 19, 1980

Re: Comments on Allen-Warner Valley Draft EIS

Dear Mr. Jensen;

As a resident of Southern Utah, I am very concerned about the growth and development of this area. Therefore, I wish to address the following comments concerning the proposed Allen Warner Valley energy system, to be included in the final EIS under preparation by your office.

My main concerns with this project are the reduction of air quality here, and excessive resource damage that that the proposed Alton stripmine and accompanying slurry line would produce.

The draft EIS has stated concerns over reduction of Class I air quality standards in Zion National Park, as well as the Valley of Fire park in Nevada. While protection of park values is and should be a major concern, what of the air quality outside the park, in the communities of St. George and Hurricane? Although these towns do not have Federally protected Class I air standards, the air here is just as pure as that inside the parks. What of the breathing needs of Utah citizens?

With thermal inversions trapping smoke and fly ash, will these people, used to some of the cleanest, clearest air in the country, be forced to breath a deadly, home grown smog like our neighbors in Los Angeles?

Will we see a raise in lung disease and related disorders?

A large portion of the visitors to this area are people wishing to escape the smog and pollution of our country's larger cities. Will a reduction of air quality, the dimming of our now expansive vistas, harm the tourist industry-a major business in our area?

I feel that this is a very important consideration. Alternatives which do not sacrifice our air for dollars should be sought. Alternative energy sources are available, with present technologies. These sources can provide sound economic base and energy independence.

Combining the Alton stripmine and coal slurry line with the power plants only adds insult to injury, with further needless destruction of our resources; land, water, and people.

Bryce National park will suffer air quality damage and offer views of scarred, stripped land, showing people from the world over how we treat our priceless heritage.

More important would be the destruction of the land itself, extremely difficult to restore in this arid climate. Once the shale soil has been disturbed, water runoff will increase, percolation and regeneration of aquifers decrease. The pumping of thousands of gallons per minute of water from deep wells may well run several ranchers in Johnson Canyon out of business. People, as well as water are far too precious a resource to needlessly waste. Also, there is a threat to Kanab's own water supply.

The Alton coal is not high grade, the mine has a predicted life of some thirty years. Is it worth the sacrifices? I sincerely hope that your office feels it is not.

I strongly support that Alternative Number 5 be selected. This could motivate the involved communities to develop long lasting, inexpensive energy sources in no more time than power plant construction. The devastating resource destruction could be avoided. Stable employment and economic base could be provided for Washington county, with manpower coming from inside the communities.

Finally, problems resulting from sudden, large scale construction growth, such as increase in crime and shortage of the necessary sanitation and health facilities would not develop.

Thank you for your consideration of my comments,

Sincerely,

Jim Crawford

Jim Crawford, Cedar City, Utah

Response 62-1

Although air quality could decline in communities outside the parks, Class II standards and NAAQS would have to be complied with in these areas. The NAAQS were set by EPA to protect human health and the public welfare, and because the NAAQS would not be violated, breathing problems would not be expected.

Response 62-2

Because the NAAQS must be complied with, deadly smog would not occur and increases in lung disease and related disorders would not be expected. Refer also to Response 62-1.

Response 62-3

The Recreation and Aesthetics sections of Chapter 4 are modified in the final EIS to reflect your concern of potential impacts on tourism.

Response 62-4

Your concern is addressed in the OSM Southern Utah Petition Evaluation Document (USDI, 1980) page III-8. The latest pumping analysis is discussed in the revised Mining in the Alton coal lease area and Groundwater Pumping for Coal Slurry sections, Water Resources, under Alternative 1 in Chapter 4 of the final EIS.



SIERRA CLUB
LEGAL DEFENSE FUND, INC.

San Francisco Office

Fredrick P. Sutherland
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Morgan Jensen, District Manager
Bureau of Land Management
P.O. Box 724
1579 North Main Street
Cedar City, Utah 84720

Dear Mr. Jensen:

The enclosed comments on the June 20, 1980 draft Allen-Warner Valley Energy System Environmental Impact Statement are submitted on behalf of our client, the Sierra Club.

We appreciate the opportunity to review this draft; it represents an encouraging improvement over the April, 1980 preliminary draft.

Very truly yours,

William S. Curtiss
William S. Curtiss
Rocky Mountain Office

WSC/nat

The June 20, 1980 draft environmental impact statement for the proposed Allen-Warner Valley Energy System represents a substantial achievement for the Bureau of Land Management ("BLM"). In a short time, the draft's authors have produced and compiled a tremendous quantity of information on this complex project for public presentation and discussion. In addition, BLM deserves credit for its recognition that conservation and renewable energy sources presently constitute a realistic alternative to conventional, central-station generating facilities. The inclusion of Alternative 5 in the draft is an important step forward for BLM's analysis of this and other energy projects.

Despite the best efforts and considerable achievements of the draft's authors, this document falls short of the mark. It does not fulfill the intention of the National Environmental Policy Act ("NEPA") that:

The primary purpose of an environmental impact statement is to serve as an action-forcing device to insure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government. It shall provide full and fair discussion of significant environmental impacts and shall inform decision-makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.^{1/}

Some of the deficiencies of the draft are informational or analytical; these are discussed below in relation to the specific alternatives concerned. The other deficiencies are conceptual. To a major extent, the conceptual flaws are the source of the analytical and informational shortcomings.

The most crucial of the systematic deficiencies in the

draft is BLM's insistence on meeting an unrealistic schedule for its review of this project. The BLM Utah State Director was given the lead to prepare the environmental impact statement for this project in November, 1974,^{2/} almost six years ago. After a pause resulting from a shuffle in the list of proposed project participants, work on the statement resumed in December, 1977. Between November, 1974 and May of 1979, BLM made little significant progress in analyzing this proposal. In May, 1979, Assistant Secretary Guy Martin acknowledged this sorry state of affairs.

"Our history of trying to pull together our work on this project goes back well into last year, without much visible success. Now, events have caught up with us."^{3/}

BLM has chosen to cut corners and to restrict the scope of its inquiry in order to produce a document consistent with its own self-imposed deadlines. Unfortunately, it is the public which stands to pay the price of BLM's insistence that scheduling concerns, and not the task itself, would dictate the content of the draft. Urgent directives from Washington that: "Expeditious processing of the Company's applications and the meeting or exceeding of the milestones specified in your schedule is required to meet BLM and Departmental priorities"^{4/} simply do not substitute for analysis.

The Bureau's belated recognition that it had done very little in a great deal of time, and its subsequent preoccupation with scheduling, have combined to produce extensive reliance in the draft on the environmental impact statement prepared by USGS, Development of Coal Resources in Southern Utah

("Coal Statement"), for its analysis of the strip mine proposed as a source of coal for this project. Such reliance is misplaced for three principal reasons. First, the mining scenario considered in the Coal Statement does not reflect any surface mining plan ever submitted by Utah International, Inc. ("UII"), for the Allen-Warner Valley project; it was intended instead only to provide a basis for USGS analysis.^{5/} In relying on the resulting environmental statement, BLM is relying on hypothesis and ignoring the fact that this project includes underground as well as surface coal mining. The Bureau rejected the option of waiting until UII submitted a mining plan before going ahead with preparation of a draft. Second, the USGS statement inadequately analyzed the effects of the scenario presented by UII with respect to air quality and visibility effects, revegetation potential, water quality and availability, and visual impacts. The shortcomings of the statement in these areas were recognized in comments on the draft version by the Environmental Protection Agency (EPA) and the Office of Surface Mining (OSM); the National Park Service (NPS) insisted on a specific disclaimer in the final statement expressing its reservations about the analysis.^{6/} Even the BLM Utah State Director questioned the adequacy of the document in July, 1979, requesting that the Department of Interior "assess the adequacy of the Southern Utah Regional Coal EIS as it pertains to the Allen-Warner Valley Energy System."^{7/} Third, the regional coal statement is outdated. Significant new information on the issues identified above, as well as soils, hydrology, noise

and other areas of importance concerning the proposed strip mine, has been developed since that statement was released which calls into serious question the USGS conclusions regarding the environmental consequences of mining. While some of these effects are being considered generically by the Office of Surface Mining in connection with the unsuitability petition filed by the Sierra Club, Friends of the Earth, Environmental Defense Fund, and others, BLM's obligation to evaluate the environmental effects of this proposal is not satisfied by passing the buck to OSM. Despite the current inapplicability of the USGS analysis as a measure of the effects of the proposed Alton mine, the BLM Director instructed the Utah State office that the draft's analysis of strip mining "should be limited to that which was done for the SURC ES (the Coal Statement)."^{8/}

The scheduling decisions which prompted misplaced reliance on the Coal Statement, and which have truncated BLM's own analysis, are of the agency's own making. Their result is, as described below, a hurried and restricted look at the pros and cons of the Allen-Warner Valley project which fails to insure that important environmental information is available to public agencies and citizens. BLM's approach deliberately and unjustifiably shortchanges those issues identified as being of greatest concern to the citizens who attended the scoping meetings held by BLM, as the draft candidly admits at page 1-6. A final statement on this project which continues

to rely on the hypothetical, badly-done, and outdated coal statement would be fatally defective.

Another conceptual flaw in the draft has to do with BLM's comparative evaluation of the six alternatives discussed. In January, 1980, BLM announced criteria to be used by the Bureau for the selection of a "preferred environmental alternative" in the environmental impact statement.^{9/} The current draft, however, fails entirely to mention any such "preferred environmental alternative," or the criteria announced to choose it. Instead, the draft refers, only, to an "Agency Preferred Alternative" at page S-18 and is silent about the criteria to be used in making such a designation, or their relative weight. Given BLM's prior use of "the preferred alternative" selection criteria to identify the applicant's project as the "agency preferred alternative" in the April, 1980 preliminary draft, there seems to be some confusion within the agency regarding whether or not a separate environmental selection will be made in the final Allen-Warner Valley statement. Members of the public are no better off in their understanding of how the information in the statement will be incorporated into BLM decisionmaking in this instance.

While the criteria announced last January by BLM were poorly conceived (in that they favored yes-or-no responses which do not promote a meaningful comparative assessment of environmental merit), they at least provided the public and

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Response 63-1

Refer to Response 22-2 for a discussion of this topic.

other agencies with an outline of how BLM intended to weigh environmental values. No such outline appears in the draft.

As a result of the flap generated by BLM's choice of alternatives in its preliminary draft statement, the agency has a serious credibility problem. Political maneuvering by Department of Interior officials seeking to insure that the project as proposed would be BLM's choice in the preliminary draft has raised doubts about whether the Allen-Warner Valley statement will be used as a tool to make decisions on objective grounds, as required by 30 CFR §1502.1(s), or will be used instead to justify a decision made on political grounds.

This credibility problem has been exacerbated by BLM's failure to make public the nature of its selection and the criteria which will be used in arriving at a choice. No explanation is offered in the draft. This prevents review and comment by the public and interested agencies regarding the comparison among alternatives, in terms of the appropriate selection criteria which will be the basis of BLM's choice. Such a course of action also violates the Department of Interior's announced commitment to "consult, coordinate, and cooperate"^{10/} with other public agencies and to "provide, to the fullest extent practicable, timely information to the public"^{11/} contained in its NEPA compliance manual.

The draft's failure to include any side-by-side com-

Response 63-2

Prior to the BLM EIS team's development of criteria for use in identification of an "environmentally preferred alternative" (early 1980), clarification was provided by the Department of the Interior that the EIS should identify the "agency-preferred" rather than "environmentally preferred" alternative. This clarification was based on several discussions related to the language and intent of the material contained in the Federal Register, November 29, 1978, Part VI, entitled "Council on Environmental Quality, National Environmental Policy Act, Implementation of Procedural Provisions; Final Regulations," and further confirmed in March 18, 1980 Departmental Manual, Part 516, Paragraph 4.10, which indicates that the "EIS shall identify the applicants' proposed action and the Bureau's preferred alternative."

In view of this clarification, it was apparent that the environmental criteria would not represent all of the considerations involved in identifying the agency preferred alternative. In an internal working document (referred to in the comment as the April 1980 preliminary draft), BLM prepared a short narrative on the preferred alternative for participating agency review and comment. However, this was never considered by BLM as an official position. Prior to the BLM adoption of an official position, the Department of the Interior waived the requirement for an agency preferred alternative in the draft EIS due to possible prejudicial influence on Alton coal lease area petition events. Consequently, the agency preferred alternative was not identified in the draft EIS, but is included in the final EIS. The environmental criteria developed previously by the EIS team were used, in part, in the development of the agency preferred alternative; however, the selection has been strongly influenced by several key events as explained in that portion of Chapter 2 entitled Agency Preferred Alternative. Also noted in that explanation is the 30-day public review period for comments on the final EIS, including comments on the agency preferred alternative.

The entire contents of the final EIS and comments received during the designated public review period will be part of the record provided for consideration in decision making by the Secretary of the Interior and BLM. A decision document will be prepared to identify the major elements considered. As part of this document, both the agency preferred and the environmentally preferred alternatives will be noted.

It is BLM's position that the substantive issues related to the proposed Allen-Warner Valley energy system have been identified in both the draft and final EIS, regardless of the use of the term "environmentally preferred alternative." Public access to information has not been limited, as demonstrated by numerous meetings, presentations, letters, and public involvement events during more than 5 years of BLM work on this project. Four EIS public scoping meetings were held in 1979, and five public hearings were held in 1980 to insure formal opportunity for public input. Public comments were solicited on the draft EIS. A special newsletter was distributed to all individuals, agencies, and organizations on the AWV mailing list (over 2,000 letters) in October 1980 as part of the effort to maintain public involvement. This final EIS was distributed to all parties who commented on the draft EIS, as well as to numerous other interested citizens, organizations, and agencies.

parison of the alternatives, as required by the CEQ NEPA regulations, 30 CFR §1502.14, adds to the mystery. That regulation provides that a statement should:

"present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public."^{12/}

Under the CEQ regulations, this directive is applicable to draft, as well as final statements.^{13/} The alternatives to this proposal, and the comparison of them constitutes the "heart of the environmental impact statement." Without any comparative analysis, however, raw data alone provide no clear basis for a choice. Tables 4-7, 4-8, 4-11, and 4-13 of the draft do not alleviate the problem, since they consider only Alternatives 1 through 4; no comparable information is presented regarding Alternative 5 and 6.

As a result of the draft's omission of both decision-making criteria and a comparative analysis of the alternatives, the manner in which BLM intends to insure that the policies and goals of NEPA will be achieved through its choice among the alternatives is unknown and unexamined. Waiting until the final statement to present the public with BLM's already-made choice unjustifiably bars effective input from citizens as well as other agencies regarding the choice and its methodology. The performance of BLM so far in carrying out its responsibilities under NEPA does not suggest that its decisionmaking could not be significantly

Response 63-3

To reflect your concern, a comparison of alternatives is included in table 2-19 of the final EIS.

improved by considering the views of the project sponsors, the public, local governments, and other agencies. Failure to do so before the fact can only contribute to the Bureau's lack of credibility in evaluating this project.

In addition to these general comments on the draft, the Sierra Club submits the following observations on the various alternatives and the BLM's analysis of them.

ALTERNATIVE 1

The analysis of Alternative 1 is seriously incomplete. Even so, the available information confirms that the applicants' proposal is an ill-conceived and unnecessary environmental disaster.

1. The Alton Mine. As already noted, the draft's reliance on the Coal Statement to evaluate the environmental effects of strip mining coal to supply the Harry Allen and Warner-Valley power plants is mistaken; such reliance substantially underestimates the adverse effects on the visitor experience at Bryce Canyon National Park from air pollution, noise, visual impact, disruption of wildlife migration, and the introduction of exotic species resulting from mining and unsuccessful reclamation attempts. In addition, the harms from mining to the directly affected area due to the unlikelihood of successful revegetation, aquifer disruption, diminished water quantity and quality, and erosion, are either ignored outright or unquantified. Beyond that, such reliance fails to address the hazards to adjacent lands used for farming and pasture from increased

Response 63-4

Your concern is addressed in the revised Alternative 1 analysis of Chapter 4 in the final EIS. Substantial revisions have been made to this section based on the OSM Southern Utah Petition Evaluation Document, (USD1, 1980).

flooding, reduction in flows from springs, wells, and streams, and impaired water quality. Nearby recreational lands in Dixie National Forest also stand to be degraded by noise, air pollution, visual impact, and disruption of wildlife. These effects must be quantified and analyzed as part of this statement in order to permit any useful comparison of this alternative with the others.

Information compiled in connection with OSM's ongoing unsuitability petition review process should be included concerning the effects of mining coal at Alton, in an attempt to evaluate some of the vague generalities contained in the draft. Where available information does not permit BLM to reach a definitive conclusion, both the range of possibilities and their consequences for the applicants' proposal should be provided.

2. Air quality. It is apparent that Alternative 1 has air quality problems which available information suggests are fatal to the project.

At the Harry Allen site, EPA's Valley Model shows SO₂ concentration increases far in excess of the allowable limits under the Prevention of Significant Deterioration (PSD) provisions of Section 165 of the Clean Air Act Amendments of 1977. This model is presently the only analysis of air quality approved by EPA for use in evaluating the pending Allen plant permit applications submitted by Nevada Power Company (NPC). Table 4-3 of the draft fails to in-

clude all of the results of EPA's modeling. As we understand them, EPA's calculated Class II SO₂ concentrations are as follows.

Estimated concentration (µg/m ³)		
<u>Sulphur Dioxide (SO₂)</u>		
<u>Annual</u>	<u>24-hour</u>	<u>3-hour</u>
44 (Limit: 20)	94-"A" Stability 347-"E" Stability 622-"F" Stability (Limit: 91)	1388-"E" Stability 2488-"F" Stability (Limit: 512)

These figures show that emissions from the 2000 MW Harry Allen plant exceed allowable Class II concentration increases by a factor of as much as seven. While NPC may eventually submit a model acceptable to EPA which predicts less extreme results, that eventuality is completely speculative. BLM should recognize that final EPA action on the permit application, now deemed "incomplete," will almost certainly occur after the final statement and Secretarial decision on the entire project. Unless EPA's analysis changes dramatically, the pending application must be denied, and that fact should be acknowledged in the draft. The SO₂ discussion on page 4-10 gives the erroneous impression that EPA's results are simply one of a number of different views. The results of the Valley Model demonstrate that substantial changes in the size, emissions control equipment, or coal source for the plant may be required if it is ever to have any realistic chance to meet air quality constraints.

EPA's analysis of the Warner Valley Plant also shows that it would similarly violate allowable Class II PSD

increments. Approval of NPC's pending Warner Valley applications is made even less likely by the formal request by the National Park Service, as Federal Land Manager, that EPA deny such applications,^{14/} which should be reflected in the draft.

The information now available suggests that the project sponsors have slim hopes of obtaining EPA approval for either of the two coal-fired powerplants. The draft should reflect current knowledge and disclose the effects of permit denial at either site upon the benefits of constructing the remaining portions of the Allen-Warner Valley Energy System. Even if the plants are approved, each of them is likely to consume all, or substantially all, of the available Class II SO₂ increment for its locale, thereby limiting development of other industrial SO₂ sources in the same airsheds. The effects of such limitation should also be considered in the draft.

3. Water. Water, like air quality, also imposes potentially crippling limitations on realizing the utilities' plan.

Groundwater availability for use in the coal slurry lines was evaluated in a recent study by R.M. Cordova, "Groundwater Conditions in the Upper Virgin River and Kanab Creek Basins Area, Utah, with Emphasis on the Navajo Sandstone" (USGS Open File Report 80524, 1980), which should have been analyzed in BLM's draft. That study concluded

Response 63-5

The application of the EPA Valley model by Region IX in the screening process does show violations of air quality standards as you have indicated and as discussed in the text of the draft EIS. Additional values which are included in your comments are included in the final EIS. This has called for the need for more sophisticated modeling as indicated in the modeling guidelines to determine if air quality standards can be met and EPA and NPC are in the process of doing this in the PSD permit procedures. As of this date, EPA has not approved a model to be used by NPC. Once approved modeling protocol is developed, NPC will submit modeling results to EPA Region IX along with additional BACT information. Once this is done and EPA determines NPC PSD application to be complete, they will issue a preliminary determination to issue or deny the application. Region IX will not accomplish all of this in time for inclusion in the final EIS but the determination may be available in time for the Secretarial decision in January of 1981. See the Air Quality section under Alternative 1 of Chapter 4 in the FEIS.

Response 63-6

The text is amended in the Air Quality sections of Chapter 4 in the final EIS to acknowledge that increment consumption by the proposed powerplants could limit other future growth in the area. However, operation of the plants would not consume all available Class II increments on a short-term basis for an entire airshed, but only in a small area containing the maximum concentration. Depending on meteorological conditions, stack parameters, and other factors, emissions from other sources in the same area may or may not impact the same small area over the worst-case 24-hour or 3-hour periods. Annual average increment consumption is easier to track because annual concentrations from two or more sources can be summed at each point, assuming that adequate meteorological data for model input is available.

Response 63-7

The Cordova report was not available during the preparation of the draft EIS submission. To reflect your comment, however, the final EIS includes an analysis of this report. See the Ground Water Pumping for Coal Slurry section, Water Resources, under Alternative 1 in Chapter 4 of the final EIS.

Alternative coal transportation routes have been studied in several documents, including the Kaiparowits Coal Development and Transportation Study (USDI, 1980). Refer to Response 12-5 for a discussion on this topic.

that groundwater pumping at Bald Knoll may seriously affect both groundwater quantity and groundwater quality in the local area. This study indicates that the inter-relation between Blad Knoll wells and local groundwater users, as well as limited groundwater quantity, may dictate substantial changes in the method of coal transport used for the project. While recognition and evaluation of this inter-relation should be a part of the statement's discussion of the environmental effects of the Alton mine, it also requires that alternative coal transportation systems be examined to see whether the project remains feasible if the Utah State Engineer determines that some significant portion of UII's pending groundwater appropriations should be denied because of interference with existing water rights.

4. Cost. The draft fails entirely to consider the economics of this proposal, despite the considerable importance of cost in shaping the project and as a tool for comparing the alternatives.

The sponsors' choice of the proposed Alton surface mine is based on their assertion that it provides the cheapest coal for the powerplants.^{15/} In comparing the costs and benefits of the Alton mine component of this project, such a claim must be evaluated and weighed against the mine's environmental effects. The evaluation of coal source economics is also necessary to compare, for example, Alternative 2 with, Alternative 4. According to project sponsors, coal costs will make up more than 40% of the total cost

Response 63-8

CEQ regulation 1502.33 reads " . . . the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations, . . . [but] should at least indicate those considerations, . . . which are likely to be relevant and important to a decision."

It is for this reason that the AWV final EIS does not include an indepth benefit-cost analysis for each alternative. The final AWV EIS does include a qualitative summary of the findings of the CPUC staff concerning the economics of the AWV project, and further references the CPUC staff recommendations and pertinent documents.

Refer to the Purpose and Need of Proposed Project section under Chapter 1 and the Coal Resources Quality and Availability section in Chapter 3 of the final EIS.

of the project over its useful life.^{16/} The role of economics in this analysis is consistent with BLM's announcement in January, 1980, that its revised selection criteria would reflect "overall cost to the electric consumer."^{17/}

The cost of energy from each separate powerplant must also be determined in the statement in order to effectively compare, for example, Alternative 1 with Alternative 2. Much of this information will be available as a part of the ongoing California Public Utilities Commission (CPUC) proceedings regarding this project.

The statement should also analyze energy costs of each complete alternative as a whole for comparison with the others. The Environmental Defense Fund's study of the relative economics of the Allen-Warner Valley Energy System, An Alternative to the Allen-Warner Valley Energy System: A Technical and Economic Analysis (July 1980), concluded that a combination of increased conservation, cogeneration, geothermal power, wind energy, and biomass could supply an amount of energy equivalent to the utilities' proposal in the same time frame, at reduced environmental cost, and at total savings to consumers of about 500 million in current dollars. Utility shareholders as well as the utilities themselves would be better off if the Allen-Warner Valley project were scrapped in favor of such an alternative strategy. Alternative 5 contains the same basic elements as the scenario analyzed by EDF, and its comparison to other coal-fired alternatives in the statement should reflect these potential economic advantages.

Response 63-9

Refer to Response 63-8. The final EIS summarizes the report provided by the Environmental Defense Fund in the analysis of Alternative 5 (Chapters 2, 3, and 4) and further references the reader to the report.

Besides facilitating a comparison among alternatives, economic factors must also be considered in evaluating the viability of individual components of the Allen-Warner Valley Energy System under various environmental constraints. If, for example, air quality limitations on the Warner Valley plant were to require 96% scrubbing rather than the 92% proposed by NPC, the additional cost of the more efficient scrubbers would be one measure of whether or not the Warner Valley plant would remain a feasible part of the overall project under those circumstances.

5. Project Benefits. The claimed benefits of the Allen-Warner Valley Energy System are twofold: First, sponsors assert that the 2500 MW total generating capacity is necessary to meet the increase in demand for electricity. Second, the project is also claimed to provide a reduction in oil-fired generation and, therefore, foreign oil imports as well.

It should be noted that the two benefits are mutually exclusive; to the extent that new capacity is necessary to meet increased demand, no oil-fired generation is displaced; to the extent that existing oil-fired capacity is displaced, energy is not available to meet new demand.

Although the question of "need" for the additional capacity provided by the Allen-Warner Valley project to meet increased demand is a complex one, it is clear that under the California Energy Commission's officially adopted forecast in its second Biennial Report,^{18/} California's case

Response 63-10

The "need" for the project by the California utilities is assumed to be for the displacement of oil-fired capacity. Refer to the updated text in Chapter 1, Purpose and Need of Proposed Project in the final EIS.

for the project is dubious indeed. The July 31, 1980 CPUC draft environmental impact report ("EIR") confirms that current utility supply plans, even entirely without this project, are sufficient to meet demand until after 1990 under this forecast:

"[R] representatives of both utilities [SCE and PG&E] are on record in agreement with the conclusion that use of the Energy Commission demand forecast and the utility supply plans yields no need for the capacity represented by Allen/Warner project for purposes of maintaining system reliability."^{19/}

Under the EIR's analysis, therefore, there is no "need" for this project to meet increased demand; the only legitimate claim of it is based upon displacement of oil-fired generating plants in California. While a detailed assessment of this latter "need" will be a part of the CPUC's decision in the California utilities' participation in the proposed project, it is important that BLM's environmental analysis recognize that the displacement of oil, and not meeting new demand, is the basis of "need" for California's 80% share of this project. The discussion of "need" in the draft which begins at page 1-1 should also be revised to reflect this conclusion. The discussion of oil displacement should also show that California's 2090 MW share of the Allen-Warner Valley project represents just 10% of its present 21900 MW oil and gas generating capacity.

6. Socioeconomics. Beginning at page 461, the draft describes a variety of consequences flowing from employment surges in Kane and Washington Counties during the construction phase of the proposed project which includes

Response 63-11

The text is changed in response to these concerns. Please refer to the Quality of Life and Conclusion sections in Socioeconomics, Alternative 1, Chapter 4 of this final EIS.

explosive growth, shortages of community services, and deterioration in the local quality of life. The draft implies that these effects on the small, homogeneous southern Utah communities may be offset through several mechanisms intended to provide money as a solution to these problems. Aside from leaving unanswered the central question of whether financial assistance will prevent a Rock Springs in southern Utah, this conclusion also apparently ignores two additional effects which should be considered in this section of the draft.

First, dramatic increases in total income resulting from creation of high-paying construction or mining jobs may contribute to localized inflation, particularly where demand for new housing, goods, and services outstrips supply. The effects of this inflation are felt most acutely by low-income or fixed-income residents. Such residents probably include many of the retirement-aged persons identified in the draft at page 3-31 as a source of the local region's historic growth. The draft should determine how the benefits and burdens of sudden jumps in total income would affect the various segments of the communities concerned.

Second, the draft does not evaluate the potential economic repercussions of reduced tourism in southern Utah caused by degradation of Bryce Canyon and Zion National Park attributable to the implementation of Alternative 1. According to the draft, "trade, especially tourist-related, tends to dominate" employment and income in the region.^{20/}

Response 63-12

The Recreation and Aesthetics sections of Chapter 4 are revised in the final EIS to reflect your concerns on the impacts to tourism.

Approximately 1.9 million people visited Bryce Canyon and Zion National Parks in 1979, contributing a major portion of this tourist-related trade. Damage to these parks from mining may reduce the number of visitors, and, hence, affect the regional economy. The draft should incorporate the results of the National Park Service visitor perception survey now being conducted at Bryce Canyon to evaluate what adverse economic effects in the area would be caused by the impact of this project on the visitor experience in the two national parks which are threatened.

7. Conclusion. In order to be implemented as proposed, Alternative 1 must overcome each of the following regulatory hurdles:

- a. Selection as BLM's preferred alternative;
- b. Issuance of air quality permits for the Warner Valley and Harry Allen powerplants from EPA and concurrence by NPS that emission from the Warner Valley plant will not adversely affect air quality-related values (including visibility);
- c. Issuance of a decision by the Secretary which does not declare unsuitable any significant portion of the planned Alton mining area;
- d. Certification of the participation of SCE and PG&E in the project by CPUC;
- e. Approval of a mining plan at Alton by OSM and concurrence by NPS pursuant to the Surface Mining Control and Reclamation Act, 30 USC §1272(e) (3);
- f. Approval of UII's water rights to water for the

Response 63-13

The BLM preferred alternative (or parts of it) will not necessarily be chosen by the Secretary of the Interior in his final decision.

The National Park Service could contest the issuance of air quality permits for the Warner Valley or Harry Allen powerplants by presenting a reasonable argument to EPA.

slurry lines by the Utah State Engineer;

g. Issuance of favorable biological opinions by the U.S. Fish and Wildlife Service regarding officially listed endangered and candidate species. Failure to receive even one of these approvals may drastically impair the feasibility of this alternative.

Given the regulatory vulnerability of this alternative, its well documented threat to environmental values, and its relatively poor economics, it is inconceivable that Alternative 1 could be BLM's choice under any reasonable selection criteria.

ALTERNATIVE 5

The draft indicates that in the PG&E and SCE service areas, the "Feasible Alternative Energy Sources Mix", combined with the direct use of solar energy and the implementation of additional conservation and load management practices could provide the equivalent of 6724 MW of capacity. That total would displace the entire 2090 MW California share of the proposed Allen-Warner Valley Energy System and provide an additional 4634 MW increment for oil displacement (equal to a 21% reduction in current oil-fired capacity). This result is consistent with other recent studies, including Moving California Toward a Renewable Energy Future by Laura King of the Natural Resources Defense Council (1980), which concluded at page I-3 that

"If an aggressive conservation effort is mounted, little expansion of the existing electric supply system will be needed over the next fifteen years.

The scenario [that is, the energy conservation scenario described in Chapter III of the study] also shows that those additions in supply that will be required include no nuclear or coal-fired power plants beyond those presently operating."

As noted above, EDF's study^{21/} of comparative economics shows that substituting such a program for the applicants' proposal would benefit consumers, utilities, and utility shareholders alike. The Natural Resources Defense Council's study of its alternative energy strategy, (which combines conservation, cogeneration, hydropower improvement, geothermal, wind, and solar energy sources), also shares EDF's conclusion that such energy sources would be less expensive and would create more jobs than would construction of conventional generating facilities.

Unfortunately, Alternative 5 is presented in a broad-brush manner which makes it difficult to draw a detailed side-by-side comparison of environmental effects between Alternative 5 and the others. The level of detail analyzed in the draft is sufficient, however, to clearly indicate that Alternative 5 has the greatest potential benefit, at the lowest potential economic and environmental cost, of the six alternatives considered in the draft.

For the final statement, Alternative 5 should be refined and made more concrete in an effort to realize that potential. The total equivalent capacity of the components of the strategy considered should be reduced to 2500 MW in order to facilitate comparison with the other alternatives, and distributed among the various utility service areas in

Response 63-14

The analysis of Alternative 5 is expanded and refined in the final EIS. The analysis was prepared with input from CPUC using their environmental impact report and recent technical reports.

the same proportion as the shares in the Allen-Warner Valley project.

ALTERNATIVE 4

Alternative 4 consists of the applicants' Harry Allen power plant, but supplied with central Utah or Wyoming coal by rail. As such, this option also shares the air quality limitations and permitting difficulties of Alternative 1. At the present, the available evidence suggests that a 2000 MW coal-fired powerplant cannot be sited at Dry Lake according to EPA's Valley Model, without violations of Class II PSD increments and adverse air quality effects on nearby public recreation areas. While the draft suggests that central Utah or Wyoming coal may reduce the severity of such violations, simply changing fuel sources does not solve air quality problems.^{22/}

The draft's analysis of the environmental effects of mining coal in Wyoming or Central Utah rests upon an incorrect assumption, namely that coal for the plant must come from either new mines or expansion of existing mines. Such is not the case. A recent survey of coal suppliers conducted by Southern California Edison Company in June 1980 confirms that there is sufficient existing excess coal mining capacity to supply the Allen facility.^{23/} We encourage BLM to review this study, and similar efforts by the CPUC staff. The analysis of Alternative 4 should recognize that the effects of building the powerplant and of an increase in current mining activity are separate.

Response 63-15

The EIS does not imply that changing fuel sources would solve air quality problems; in fact, it states that a 2,000-MW plant burning central Utah or Wyoming coal would violate 24-hour PSD Class II increments based on the Valley model (Air Quality, Alternative 4, Chapter 4).

The draft erroneously links them.

ALTERNATIVE 2

Alternative 2 also envisions a 2000 MW generating plant at Dry Lake, Nevada, but this option includes the Alton mine as fuel source. The analysis of this alternative shares the deficiencies of Alternative 1's analysis of the mine and Harry Allen plant which are discussed above.

In light of available information, Alternative 2 makes little sense. It combines most of the worst features of Alternative 1; its only improvement over the applicants' proposal is the elimination of the Warner Valley plant and reservoir. It provides the same energy or oil-displacement benefits as Alternative 4, but at a much higher environmental cost. This alternative should be reviewed, as discussed below, in order to ascertain whether or not it represents a reasonable set of trade-offs when compared to the remaining alternatives.

ALTERNATIVE 3

The 250 MW powerplant at the Warner-Valley site included as a part of Alternative 3 should be dropped unless BLM can justify construction of such a small plant on economic grounds. In all likelihood, a 250 MW capacity will not provide sufficient energy to balance its economic costs, much less its environmental costs. This is particularly true when the plant requires operation of its own mine, as in this alternative. While the rationale for the inclusion of a reduced Warner-Valley power plant is sound, namely that

Response 63-16

Refer to Response 63-4 and the Alternative 2 analysis in Chapter 4 of the final EIS for a discussion of the topic of your concern.

air quality constraints may not allow a 500 MW capacity, BLM should review its feasibility when coupled with a 1 million ton/year surface mine.

The draft suffers from the presence of several Alternatives which consist of simple variations on a theme; they are too similar to justify extended analysis. As proposed, Alternatives 2 and 3 have nothing to offer in light of what information is available concerning the other Alternatives. They do not embody a sufficiently distinguishable set of advantages and disadvantages to warrant being treated as separate alternatives. Instead, they should be combined to create a single new alternative, which better reflects the tradeoffs involved. One suggestion would be to consider a 1000-1200 MW plant using market coal at the Harry Allen site.

SUMMARY

The draft is sufficient to identify the basic environmental issues concerning the Allen-Warner Valley Energy System, its coal-fired variations, and a conservation/alternative resources alternative. What it lacks is sufficient analysis to quantify those issues and to permit a serious comparative analysis of the options available.

Response 63-17

The alternatives were placed on a screening matrix (Appendix 2) to select reasonable alternatives from 46 of those suggested during the scoping process. All six alternatives that are considered in the EIS were found to be reasonable enough to warrant analysis. The environmental analyses of Alternative 3 of the EIS are self explanatory. This alternative was found to be economically feasible during the screening process (i.e., not more than 120 percent greater than the proposed action).

FOOTNOTES

1. 30 CFR §1502.1.
2. Memorandum of May 30, 1979 from George D. Lea, Acting Director, BLM, to State Director, Utah.
3. Memorandum from Assistant Secretary Land and Water Resources to Director, Bureau of Land Management, May 24, 1979.
4. Memorandum from George D. Lea, Acting Deputy Director, Bureau of Land Management, to State Director, Utah, June 13, 1979.
5. Letter from L.L. Balzer, Director, Environmental Quality Department, UII, to Donald A. Crane, Regional Director, Office of Surface Mining, May 24, 1979.
6. The disclaimer states that: "The Park Service believes that the significance of impacts on visibility, aesthetics, and air-quality related values as related to Bryce Canyon National Park may be insufficiently analyzed in this EIS," Development of Coal Resources in Southern Utah, Part 2, Site Specific Analysis at p. A-III-7.
7. Memorandum from the State Director, Utah, to the Director, Bureau of Land Management, July 5, 1979, p. 3.
8. Memorandum to the State Director, Utah to the Director, Bureau of Land Management, July 20, 1979, p. 1.
9. Public announcement and attachment from J. Kent Giles, Acting Cedar City District Manager, January 7, 1980.
10. 516 DM 1.2 (E).
11. 516 DM 1.2 (F).
12. See 20 CFR §1502.9, which requires that a draft statement "must fulfill and satisfy to the fullest extent possible the requirements established for final statements" under NEPA.
13. 30 CFR § 1502.14
14. Letter from L. Lorraine Mintzmyer, NPS Regional Director, Rocky Mountain Region, to Roger L. Williams, EPA Regional Administrator, Region VIII.
15. See the testimony of John Arlidge, NPC Manager of Special Projects, before the California Public Utilities Commission in Application No. 59308, April 15, 1980, at p. 26 lines 22-24 of the Reporter's Transcript, Volume 1. Hereafter, references to such testimony by line and page number of that transcript will be in the form "R.T. 26:22-24".
16. See Arlidge testimony at R.T. 197:27-28.
17. See note 9. The quote is from criterion No. 1, which reads in full: "Meets at least in part the anticipated energy needs of the utilities service areas at the lowest possible overall cost to the consumer."
18. California Energy Commission (1979). This forecast will also be used to evaluate need by the CPUC in its proceedings.
19. California Public Utilities Commission, Draft Environmental Impact Report: Allen Warner Energy System and Western Transmission Lines Application No. 59308, July 31, 1980 (PUC EIR) at I-43.
20. Draft at 3-31.
21. See Page 13.
22. See draft, Table 4-12, at p. 4-129.
23. A copy of this study, submitted to the California Energy Commission in Docket No. 79-N01-3 in June 9, 1980, was prepared by Thomas J. Rose. The survey indicates that 2 million tons per year of excess strip-mined coal per year is available from Wyoming, and that a total of 8 million tons of deep-mined coal is available from existing mines in Central Utah, Colorado, and Wyoming.

Megge Hards
1326 E 6th S
S.L.C., Ut
84102

Mr. Jensen,

i am writing in regard to the proposed Warner Valley Project.

i am against it - totally. i am more inclined towards Alternative Energy i.e. Solar, Wind... also conserving - there is so much waste in our country, im disgusted with it & feel a definite need for changes in the "American way of life".

the project would require too much of the scarce water supply, leaving the people short (the already existing locals). it would also damage our pristine Air quality.

We must take into consideration future generations - the plant would create a threat to health.

it is time to stop taking from our "mother" Earth & start giving. Coal, like Oil runs out - Wind Water Sun don't - provided the atmosphere & ocean aren't polluted. Please, if you don't understand me, take a walk in the proposed sites & listen to the wind or watch a cloud or bask in the suns rays - they'll have alot to say

Sincerely

Megge Hards

Megge Hards, Salt Lake City, Utah

Response 64-1

Your views are noted and will be considered in the decision making process.

17 Aug 1980

Mr. Morgan Jensen
District Manager
Bureau of Land Management
PO Box 724
1579 North Main St
Salt Lake City, UT 84120

Dear Mr. Jensen:

We are writing because we are very concerned about the Alton Warner Valley Energy System (AWVES). Were AWVES to be carried out in full, the unique & beautiful National Parks Bryce & Zion would be badly affected. Dust from the strip mining proposed for the Alton Hills could obscure (by 64%) the presently outstanding views from Bryce Canyon's Yovimpa point overlook. Emissions from the Warner Valley Plant could violate the Class I air quality values in Zion NP.

It is not only national parks which will be affected. The enormous amount of water needed for the proposed slurry lines could adversely affect existing water supplies vital to area economy & residents.

Alternative energy sources (solar, geothermal, wind) & conservation could provide greater energy yield, at less cost, in the same time period as AWVES, with no adverse impacts

August 19, 1980

[to tourism or other local economic bases.

We urge the BLM to select Alternative 5 - The Energy Conservation & Alternate Energy Sources Alternative. This system will provide a greater yield in energy at less cost & with fewer adverse effects than AWVES.

Please include this letter in the final EIS & decision making process for the Allen Warner Valley Energy System.

Sincerely,

Laurel Casjens
Laurel Casjens

Carleton Detar
Carleton Detar
579 12th Ave
Salt Lake City, UT
84103

Carleton Detar, Salt Lake City, Utah

Response 65-1

Your concerns are noted and will be considered in the decision making process.

Mr. Morgan Jensen
District Manager
Bureau of Land Management
P.O. Box 724
1579 North Main Street
Cedar City, UT 84720

Dear Mr. Jensen:

Being a new resident of Cedar City and a frequent visitor to Bryce and Zion National Parks, I was appalled to learn of the Allen-Warner Valley Energy System (AWVES) and its potential for irreversable damage to this unique and beautiful area. Southwest Utah contains many priceless resources that should be protected from environmental degradation.

AWVES is not the only answer to our energy shortage. There are many alternative energy sources such as solar, wind, geothermal and conservation that could provide a greater energy yield at less cost, in the same period as the Allen-Warner Valley Energy System.

In particular, I feel that emissions from the Warner Valley Plant could violate the Class I air quality values of Zion National Park.

Dust from strip mining operations in Alton Hills could obscure the panoramic visual range of Bryce Canyon's Yovimpa Point overlook by 64%.

Pumping 10,000 acre feet of groundwater yearly for the slurry lives could adversely affect existing water rights to several wells and springs, vital to area residents.

I would like to suggest and encourage the BLM to select Alternative 5 - The Energy Conservation and Alternate Energy Sources Alternative. This alternative will provide a greater yield in energy at less cost than the Allen-Warner Valley Energy System.

Please include my letter in the final environmental and decision making process for the Allen-Warner Valley Energy System.

I thank you in advance considering my opinions.

Sincerely,

Frank Montana

Frank Montana

/w/

Frank Montana, Cedar City, Utah

Response 66-1

Your views are noted and will be considered in the decision making process.

67

August 15, 1980

District Manager
Bureau of Land Management
Cedar City District Office
1579 North Main, P.O. Box 724
Cedar City, Utah 84720

Dear Sir:



206 S. 17 Ave. Phoenix Arizona 85007 261-7803 or 261-7604

Governor's Commission on Arizona Environment, Phoenix, Arizona

Response 67-1

The proposed Warner to Pecos transmission line would extend south from the Warner Valley powerplant to where it would intersect the existing Navajo-McCullough transmission line. The proposed line would run parallel north and adjacent to the existing line through Arizona. This is consistent with the Commission's recommendation.

Regarding the Allen-Warner Valley Energy System Environment
Impact Statement:

In our opinion we see no problems as only a small portion of the power line, and possibly a slurry line for transport of coal, will cross the Arizona Strip Country. However, it is our understanding from past promises of BLM and other agencies, all power lines should go in existing corridors, not create new corridors.

The recommendation that the Allen-Warner Valley Energy Lines follow the existing corridors in the Arizona strip was submitted to the Commission on August 6, 1980 at our annual summer conference by our Public Lands Resource Committee. The recommendation was motioned, seconded and unanimously voted upon by the Governor's Commission on Arizona Environment.

Thank you for the opportunity to comment on the proposed energy system.

Sincerely,

Roy P. Drachman

Roy P. Drachman
Chairman
GOVERNOR'S COMMISSION ON ARIZONA ENVIRONMENT

RPD:ar



SOUTHERN NEVADA HOME BUILDERS ASS'N, INC.

AFFILIATED WITH
NATIONAL ASSOCIATION OF HOME BUILDERS
OF THE UNITED STATES

68

P.O. BOX 5397
PHONE: 870-7234
LAS VEGAS, NEVADA
89102

August 12, 1980

Bureau of Land Management
P. O. Box 724
Cedar City, Utah 84720
Attn: Mr. Morgan Jensen, District Manager

RE: Warner-Allen Power Plant

Dear Mr. Jensen:

Please be advised that the Southern Nevada Homebuilders Association supports the proposed construction of the Warner-Allen Power Plant. Given the relationship of our dependence on foreign oil and the decline in the substance of our economy, we are left with few alternatives but to exploit those energy resources which we still have in abundance. The Warner-Allen plant is a concrete example of national policy.

The Southern Nevada Homebuilders recognize that serious environmental considerations have been enumerated. We feel that those concerns may be fully ameliorated with appropriate restrictions. It is our understanding that fully 93% of the sulphur dioxide and 99% of the particulates will be contained. The Clark County Health District advises us that the ammonia and nitrogen oxide emissions present the only unresolved air quality concerns, and that representatives of Nevada Power and other participants are working to address the control of these emissions. The proximity of the Alton Coal Field to Zion National Park seems to be the other chief environmental concern. While the strip mining operation may present a temporary impairment of particular vistas and a temporary disturbance of the local ecology, present environmental technology applied both in the spirit and to the letter of applicable laws should result in the ultimate restoration of the area.

The Las Vegas area is a growing community whose energy needs will be greatly supplemented by construction of the Warner-Allen Plant. Eight percent of the baseload output plus baseload output recapture after 13 years would greatly improve the energy picture for the greater Las Vegas area. It is our understanding that by the year 2000 the plant would produce fully 100% of this area's baseload requirements.

Energy policy and environmental policy need not be contradictory. There is sufficient ground for both. However those who pose the environmental position must understand that a backlash from a thwarted self sufficient energy policy could lead ultimately to loss of solid gains made by the ecology movement.



SOUTHERN NEVADA HOME BUILDERS ASS'N, INC.

AFFILIATED WITH
NATIONAL ASSOCIATION OF HOME BUILDERS
OF THE UNITED STATES

P.O. BOX 5397
PHONE: 870-7234
LAS VEGAS, NEVADA
89102

August 12, 1980
Mr. Morgan Jensen
Page two

The Southern Nevada Homebuilders Association urges the expeditious approval of the plant with full confidence that associated environmental problems will be resolved as equitably as is possible with present technology and knowledge.

Sincerely,

R. J. Chapman
President
SNHB

RJC/esp

cc: John Arledge, Nevada Power

Southern Nevada Home Builders Association, Inc., Las Vegas, Nevada

Response 68-1

Ammonia and NO_x emissions are not the only unresolved air quality concerns. As discussed in the Air Quality section of Chapter 4 in the final EIS, other air quality concerns include the possibility of Class II SO₂ violations from both plants, possible cumulative impacts with the Reid Gardner plant violating the NAAQS for SO₂, possible visibility impacts at the Class I areas of Bryce Canyon and Zion National Parks, and possible violations of Class I SO₂ increments at Zion National Park.

Response 68-2

The initial NPC entitlement of 8 percent of the Harry Allen powerplant output (160 MW) is designed to meet the initial energy needs of its customers. The company would recapture capacity from the participating California utilities in annual steps (with limits) as needed to serve its customers. The powerplant would not necessarily supply 100 percent of the area's baseload requirements.



3508 Victory Ave.
Las Vegas, Nevada 89121
August 17, 1980

District Manager
Cedar City District
Bureau of Land Management
P. O. Box 724
Cedar City, Utah 84720

Subject: Allen-Warner
Valley Energy Project

Dear Sir:

Thank you for sending a copy of the draft
EIS on the proposed Allen-Warner Valley Energy Project.

I am in favor of Alternative V -- Conservation and development of
alternative energy sources for the following reasons:

- a. Threat to Air Quality in Zion and Bryce Canyon National Parks and Valley of Fire State Park.
- b. Threat to Endangered Species of both flora and fauna.
- c. Over-mining of fossil water in Alton area with likely drying-up of springs.
- d. Adverse effect and potential destruction to wetlands habitat in Las Vegas Wash by diversion of treated water from Las Vegas Valley, and consequent threat to proposed wetlands park.
- e. Serious doubts that the Southwest is the place for projects of this kind due to shortage of water for cooling purposes.
- f. Likelihood that the Air Force's MX project will take precedence for any available water in the area.

In the event that a power plant is authorized at Dry Lake, Nevada, I favor rail transportation of coal from Utah and Wyoming, rather than construction of coal slurry pipelines.

Thank you for this opportunity to comment on the Allen-Warner Valley Energy Project.

Sincerely yours,
Virlis L. Fischer
Virlis L. Fischer

Virlis L. Fischer, Las Vegas, Nevada

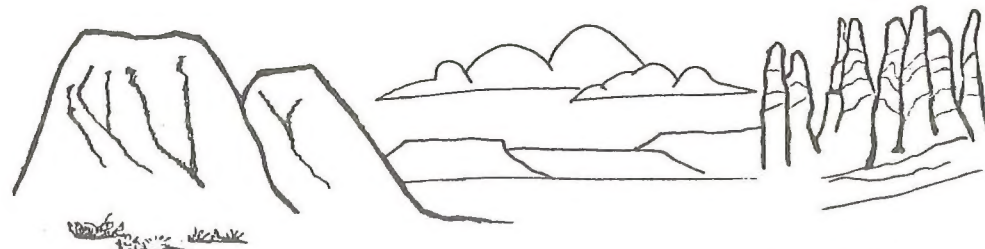
Response 69-1

Your views are noted and will be considered in the decision making process.

See Response 13-1, 52-3, and the Wildlife: Species of Concern, and Vegetation: Species of Concern sections in Chapter 4 of the final EIS.

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August, 1980

A "CLASSIC LOSER" REARS ITS UGLY HEAD THE ALLEN-WARNER VALLEY ENERGY SYSTEM

Unfolding in the wildlands of Southern Utah is a battle between big industry and environmental quality. At stake lies some of the nation's most scenic country, some of the nation's most priceless natural heritage, and some of the nation's most delicate and awesome National Parks—Zion and Bryce Canyon. Proclaimed as the heart of the nation's National Park System, the long distance views and fragile ecosystems of Southern Utah will be degraded for a few more short lived megawatts. The battle over the proposed Allen-Warner Valley Energy System (AWVES) is important for more than just its environmental implications—the precedent set by this action could set the stage for power plant proposals across the nation.

In characterizing the AWVES Brant Calkin (former president of the Sierra Club and now Southwest Regional Representative) called it a "classic loser". Calkin stated that "the Carter Administration will be burning peanut shells before the people of this nation permit the National Parks to become utility backyards." The Carter Administration nominated the AWVES to the critical projects list, seeking a fast-track or ramrod approach for approval. **WITHOUT YOUR HELP AND ASSISTANCE THE RED ROCK COUNTRY OF SOUTHERN UTAH MAY BE SCARRED FOREVER.**

The System may be looked at as five components:

(1) THE ALTON STRIP AND DEEP COAL MINES

The 8,300 acre Alton Coalfield will be located within 4 miles of Bryce Canyon National Park. The effects of this mining according to Glen T. Bean Director, Rocky Mountain Region of NPS present threats to:

"... the scenic quality, clean air, visibility, geologic integrity, native ecosystems, wildlife and a natural setting free from man-made disturbance."

Utah International, the leaseholder, proposes to mine 10.5 million tons of coal per year. The operations including and dust, would be clearly visible from Yovimpa Point Overlook in Bryce Canyon National Park — 125,000 visitors a year enjoy the view from Yovimpa Point. Blasting operations could topple and damage some of the fragile formations in Bryce Canyon. It is questionable whether the mined area could ever be successfully revegetated; today the area is carpeted with sagebrush, pinyon and juniper trees and a few cleared grasslands. Failure to revegetate the areas or revegetation with non-native species could permanently scar the area and the view from the rim of the Panguagunt Plateau. This vista stretches 180 miles and remains today as it was described in 1876 as "The wildest and most wonderful scene that the eye of man ever beheld."

Prepared, printed and mailed by the Utah Chapter Sierra Club

(2) COAL PROCESSING FACILITIES

On Bald Knoll, facilities for crushing and slurring coal would be developed. Water from the Navajo aquifer (which supplies spring and well water for local ranchers) would be used. The effect of pumping 6,000 gallons per minute (9,700 acre feet per year) over the life of the system from a semi-desert area can only be imagined as pumping tests have not been performed. The effects of pumping would almost certainly decrease or halt the flow of springs in the area and damage the recharge capability of the aquifer. Why should Utah—the second driest state in the nation—export its limited water supply and get little energy in return?

(3) COAL SLURRY LINES

Coal slurry lines would use almost 10,000 acre-feet of water a year, send 4/5 of it out of the state, and require extensive purification of the slurry water before it could be returned to the ground. Slurry lines themselves, cause considerable environmental damage when breaks and spills occur. The lines would traverse wild and scenic desert landscapes.

(4) THE 500 MEGAWATT WARNER VALLEY POWER PLANT

The Warner Valley generating plant and water storage reservoir would be located just 23 miles from Zion National Park. Emissions would certainly damage Class I quality air standards within the Park and would be visible, if not overhead while in the Park certainly from points inside the Park boundaries. The only practical coal source currently proposed for the Warner Valley plant is the Alton Coalfield. The coal would be mined at Alton and slurried to the Warner Valley Power Plant. Alton coal has a comparatively poor heat rate. The proposed 55,000 acre foot reservoir which would supply cooling water would be diverted from the Virgin River during spring runoff. Diversion of water from the Virgin River would jeopardize the habitat of the Virgin River chub and wounded minnow, both nominated for the endangered species.

(5) THE 2090 MEGAWATT HARRY ALLEN POWER PLANT

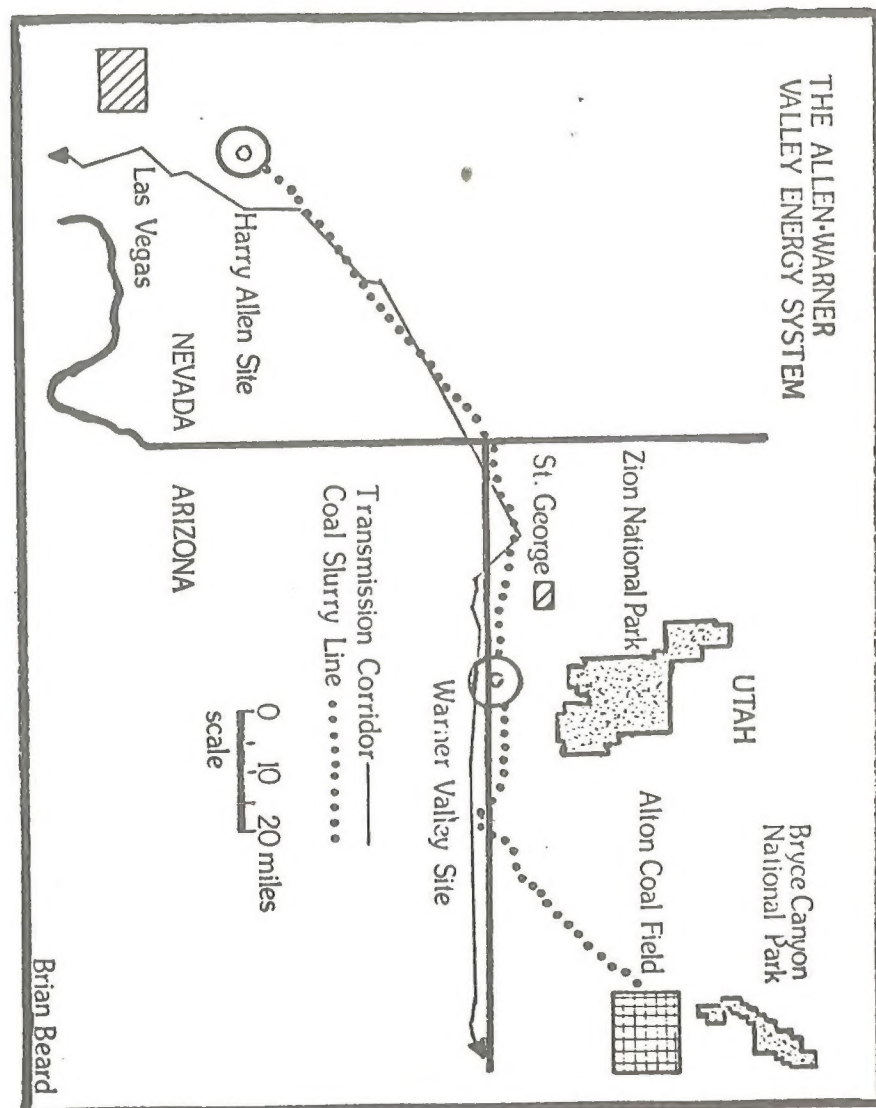
The Allen generating plant is perhaps the least controversial aspect of the energy system. Cooling water would come from treated waste supplies in Clark County, Nevada. However, the Allen plant poses a large threat to the Desert National Wildlife Refuge, located near the plant site. Coal could be used from areas other than the Alton coal field, thereby reducing environmental effects on scenic Bryce Canyon National Park.

Investors in the AWVES are Southern California Edison and Pacific Gas & Electric for 2090 megawatts or 83.6%, Nevada Power Company for 285 megawatts or 11.4% and the City of St. George, Utah for 125 megawatts or 5%. Initially over 90% of the electricity produced would go to California, until such time as the full Utah and Nevada shares were needed.

Alternatives

Alternatives to the AWVES are numerous. Some of the most compelling come from the California Energy Commission's own assessment of the proposal. The CEC proposes a "preferred" supply scenario for meeting California power needs through 1991. The scenario calls for only 1609 megawatts from the AWVES rather than 2090 as now projected. Implementing the "preferred" scenario involves an increasing reliance on cogeneration, geothermal hydro, wind, and solar energy. Cogeneration and conservation programs alone could supply an estimated 6000 megawatts of power (more than twice the amount to be generated by the entire AWVES). The CEC has recommended elimination of the Alton Coalfields, slurry lines, and Warner Valley plant from the project—environmentalists consider this as a good option. The Bureau of Land Management Draft Environmental Statement has listed the CEC alternative as an alternative to be analyzed. Should the Allen plant alone be constructed, it could obtain higher quality coal by existing rail lines from coalfields in central Utah.

Recent studies have shown the risks of emissions from coal-fired generating plants. For an equivalent amount of energy produced, toxic trace elements present in coal emissions are as or more poisonous than those present in an equivalent amount of uranium ore. In a 35-year lifetime, one coal plant will produce enough waste material to cover a square-mile with a 30" thick carpet.



WHAT YOU CAN DO

It is now time to write to the Bureau of Land Management asking that the priceless resources of Southwest Utah be protected from environmental degradation. The Bureau of Land Management is now soliciting comments until the 20th of August. It is imperative that conservationists write to the Bureau and ask that the priceless resources of Southern Utah be protected. Be sure to include the following points in your letter:

1. Alternative energy sources such as solar, wind, geothermal and conservation could provide a greater energy yield at less cost, in the same time period as the Allen-Warner Valley Energy System.
2. Emissions from the Warner Valley Plant could violate the Class I air Quality values of Zion National Park.
3. Dust from strip mining operations in the Alton Hills could obscure the panoramic visual range of Bryce Canyon's Yovimpa Point overlook by 64%.
4. Pumping 10,000 acre feet of groundwater yearly for the slurry lines could adversely affect existing water rights to several wells and springs, vital to area residents.
5. Ask the BLM to select Alternative 5—The Energy Conservation and Alternate Energy Sources Alternative. This alternative will provide a greater yield in energy at less cost than the Allen-Warner Valley Energy System.
6. Request that your letter be included in the final environmental statement and decision making process for the Allen-Warner Valley Energy System.

Your action or inaction may seal the fate of this priceless portion of the west.

Send letters to:

Mr. Morgan Jensen
District Manager
Bureau of Land Management
P.O. Box 724
1379 North Main Street
Cedar City, Utah 84720

If you would like to be involved in the protection of Southern Utah's resources please phone or write:

Brian Beard: 2048 La Cresta Drive; Salt Lake City, Utah 84121 943-6913

Jack T. Spence: 1249 Island Drive; Logan, Utah 84321 752-8522

DONATIONS ARE URGENTLY NEEDED AND SHOULD BE SENT TO: Brian Beard; 2048 La Cresta Drive; Salt Lake City, Utah 84121. All donations are tax deductible and will be used exclusively for the fight on the Allen-Warner Valley Energy System.

Brian Beard
2048 LaCresta Drive
Salt Lake City, Utah 84121

Dear Mr. Jensen —

I would like to write a lengthy letter, but time constraints prohibit it. I would like to reiterate the above 6 points and have them included in the final EIS statements.

10341850 TC-0723 7
MR + MRS LARRY J STENSAAS
2460 LYNNWOOD DR
SALT LAKE CITY UTAH 84109

Most Sincerely
Larry J. Stensaas

Larry J. Stensaas, Salt Lake City, Utah

Response 70-1

Your views on the project are noted and will be considered in the final decision making process.

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Orderville, Utah
August 18, 1980

FEASIBILITY IMPACT STATEMENT

Bureau of Land Management

Dear Sirs,

I am a resident of Kane County, born here and have lived here most of my life. I have been in the logging and lumber processing business up until three years ago. I am 63 years of age.

I love Kane county very much; it's a wonderful place to live, but there is not too much future for our young people. I saw Kaiparowits go down the drain and now it appears that they are trying to do the same with the Alton coal fields.

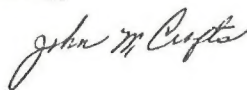
I resent very much the meetings that are held to get input. The same people are at each meeting -- people who have already got it made or who are opposed to it. They come from groups all over the country who are not native citizens. All they have is a loud mouth and do not know the needs of the local "silent" majority of which I suppose I am one.

Most of us are busy working and making a living and cannot get to all these meetings which seem repetitious and unnecessary waste of time and tax payers money. As a kid I saw coal mines all over the county here-- we are sitting on top of a potential answer to the energy problem. The President is encouraging us to develop it and I think it should be done. If it affects the water of a few individuals, which I doubt it does, then these people should be compensated for it.

I am definitely for this project which will make a real county and area out of Southern Utah where all the people can be benefited by permanent jobs that will be made available as a result of the project.

If you took a real poll of the area you would find that 95% of the people in southern Utah feel the same as I do. We resent people being shipped in here to supposedly speak for us. A lot of our tax money is being spent for ridiculous tests and for getting answers from people who know nothing and care less about our needs to make a living for ourselves and our children and grand children, plus a lot of people who have moved away, but who would move back if there were any way to make a living for their families. This project would make this feasible.

Sincerely,



John M. Crofts, Orderville, Utah

Response 71-1

Refer to the Scoping Process section of Chapter 1 in the final EIS and the Coordination, Consultation and Review section of this volume. The scoping meetings and public hearings (two of which were held in southern Utah), and the request for written comments on the draft statement are intended to maximize public input and are mandated under NEPA and FLPMA. Nationwide public participation is sought by BLM on all proposed projects of regional or national significance that would affect public lands.

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WASHINGTON COUNTY WATER CONSERVANCY DISTRICT
LA VERKIN, UTAH

My name is Wayne Wilson. I am 74 years of age. I have lived in this area all of my life. I live in LaVerkin, Utah. I have served on water boards and water commissions, and been a part of the various phases of the water development in this area and the state of Utah for 35 years. I worked on the Dixie Project for that many years, Utah Water Resources for 32 years, the Board of Water Resources for 20 years and I am a charter member of the Colorado Water Users Association so my work with water has been for the development of this area.

With my travels in various sections of the country, I know that water alone means more than any other one commodity for Washington County, and this section of the country. Water, and the proper use of water.

The Water Conservancy District was formed, November 28, 1962, to develop and use the water in the Virgin River for the people of Washington County. The Conservancy District embraces all of Washington County. Everybody in Washington County realizes and understands the value of water.

One of the purposes of the Conservancy District was to build the Dixie Project and since that failed we have been working forward to getting the Warner Valley Project which will give us a reservoir of 50,000 acre/feet of active storage.

Many of the cities, six of them, have applied to the Conservancy District for supplemental water to use in their culinary systems. We have applications from canal companies for water to be used for supplemental irrigation. The state of Utah has applied for 6,000 acre/feet to be used in development of state owned land in this area, and the power group has asked for 10,000 acre/feet for power generation. So, when they state that we have what water we need and that we will not be able to make good use of the water that is a wrong statement.

Page 2.4 of the Environmental Impact Statement states as follows:

"Warner Valley Water Project

Information developed by Centaur Associates, Inc. (a BLM contractor) indicates that the need for a municipal water supply to serve several southern Utah communities has been met by a separate water development: The Snow Canyon Project. There would, however, be several potential uses for the impounded water, such as agricultural or recreational uses."

It seems strange indeed that the Bureau of Land Management would in the same document on table 23, page 2.16 show applications on hand with the Washington County Water Conservancy District for 49,400 acre/feet of water, including municipal use, yet it says in the statement from Centaur Associates that the water is not needed. The document is contradictory and the statement by Centaur Associates is totally unfounded. The three communities, through the Snow Canyon Development, developed enough water to meet the municipal water needs of Ivins, Santa Clara, and St. George through the year 1985 based on experience in the necessity to develop water over the past decade. The Snow Canyon Development was designed only to meet the needs of the communities until Warner Valley Reservoir will make additional water available. It is not a cure all for all the water requirements of southwestern Utah.

Comments concerning the Centaur Associates study again appear as the concluding paragraph on page 1.3:

"According to a recent BLM sponsored study, however, only a small portion of the proposed municipal water supply system would be needed (Socioeconomic) Centaur Associates, Inc., 1980). The study indicates that with the recently completed Snow Canyon Water Project located northeast of St. George, the following municipal water supply/demand situation would exist by the year 2020:"

Historically the area has experienced a growth rate of between 6% and 7% as indicated in paragraph population page 3.31. The water user schedule on the page 1.4 based on projections between 2.1% and 3.2% indicating the demand in the year 2020 is completely unrealistic and is in no way accurate, and should be stricken from the report as not being applicable.

The third paragraph on page 4.33 indicates:

"The state of Nevada wishes to enter negotiations with the State of Utah on their proposed Virgin River water compact. Such a compact could result in modifications to the Warner Valley water project and proposed diversion and delivery schedules. The state of Utah has, to date, declined to enter into negotiations."

It is a known fact that water rights and use are regulated by the states. It is not a Federal question in any way. The state of Utah and its Director of Water Resources, Mr. Dan Lawrence and the State Engineer, Mr. Dee Hansen, have refused to even consider any waters of the Virgin River to be entered into any compact other than the compact that exists now. This statement should be stricken from the report as it is not applicable, and the Bureau of Land Management is out of place in attempting to infer that any request for water by another state has any impact on this proposal.

Requests for water from the Conservancy District by cities, the state of Utah, irrigation companies, and power generating companies are dated 1973. Any development of water since that time by any of the respective applicants is designed to meet their requirements until the Warner Valley Project is built.

Before the Washington County Water Conservancy District would be able to participate in a project of this kind it was necessary and appropriate to have competent engineering firms study the proposal and advise the Conservancy District as to the need and feasibility of entering into the project and make available to the bonding company, who will fund the project, sufficient information to justify the participation in the project by the Conservancy District. This study was made by Burns and McDonnell and was completed in 1977. The study was sufficient to justify the entrance into the project by the Conservancy District and it was sufficient for the bonding group headed by Merrill-Lynch, in New York, to arrange the necessary financing for the Conservancy District to complete this project.

We need to make mention of the fact that presently land, irrigated by the Washington Field Canal Company and the St. George Valley Irrigation Company, lies idle part of the year for lack of water. The 8,000 acre/feet of water allocated to supplemental irrigation water would allow irrigation companies to fully utilize their land which now lies idle approximately 25% of the time.

As chairman of the Washington County Water Conservancy District I herein direct the Bureau of Land Management to remove from the Environmental Impact Statement any reference or inference to the fact that water from the Warner Valley Reservoir is not needed for municipal, power, and irrigation uses in Washington County and that the information referenced as coming from Centaur Associates be removed as it is inaccurate and poorly developed.

WASHINGTON COUNTY WATER CONSERVANCY DISTRICT

Wayne Wilson
Wayne Wilson, Chairman
July 18, 1980

Wayne Wilson, Washington County Water Conservancy District

Response 72-1

The water project applicant has stated that the primary purpose of the project is to develop water for municipal and industrial uses (i.e., culinary water). The discussion of the need of water for this purpose is evaluated in the Purpose and Need of Proposed Project section of Chapter 1 in the final EIS. The need determination is revised in the final EIS based on updated census and population growth rate figures. The findings, however, indicate that the project would not be needed for municipal or industrial purposes before the year 2000.

Response 72-2

The Effects on the Virgin River System section under Alternative 1 of Chapter 4 is revised in the final EIS to reflect your comments.

Response 72-3

The preparation of the EIS did not include an investigation into the finances of the water project. As to the need of the water project, refer to the discussion in the Purpose and Need of Proposed Project section of Chapter 1 in the final EIS.

Response 72-4

To reflect your comment, the Water Resources Section under Alternative 1 of Chapter 4 in the final EIS is revised to indicate possible water need during low flow periods (July through August).



United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VA. 22092

73

AUG 14 1980

Memorandum

To: District Manager, Bureau of Land Management
Cedar City, Utah

Through: Assistant Secretary--Energy and Minerals (18) AUG 15 1980

From: Director, Geological Survey

Subject: Review of draft environmental statement for Allen-Warner
Valley Energy System, Utah, Arizona, Nevada, and California

We have reviewed the draft statement as requested in your letter of June 23.

[In view of the importance of water resources in the project area, we believe that a program of monitoring ground water should be adopted. We also recommend that a well-planned test program be completed prior to preparation of the final environmental statement, since the test results may affect selection of a preferred alternative.

These concerns and others are discussed in the enclosure.

George H. Williams
for H. William Menard

Enclosure

U.S. Geological Survey, Reston, Virginia

Response 73-1

Your concerns are reflected in the Ground Water Pumping for Coal Slurry section under Alternative 1 in Chapter 4 of the final EIS. In addition, the present testing program of UII is summarized in this section. Results of these studies should be complete and available prior to the Secretary of the Interior's decision.

General Comments

2 [It is indicated that information on coal resources, particularly on impacts, was obtained from the final environmental statement for Development of Coal Resources in Southern Utah (issued 1979). However, the Southern Utah statement was based on a mining plan which differs from the mining proposals discussed in the Allen-Warner statement. For example, the latter statement talks about underground mining concurrently with strip mining, giving mining methods and tons to be recovered over the 40-year life of the mine. This was not part of the plan submitted to the Geological Survey for Southern Utah. Acres to be disturbed relate to the mining plan received for Southern Utah, and this acreage does not include underground mining.

3 [Many ground-water impacts, particularly those involving shallow ground water, can probably be mitigated successfully under the plan to line disposal facilities. However, for a project in a region where water resources are so important, we believe that plans should specifically include monitoring of critical water levels and quality of ground water.

Specific Comments

4 [Pages S-5, S-11, 4-26, 4-78. We agree with the conclusion that further studies of the Navajo Sandstone aquifer and of the geologic structure (faults) which may affect aquifer hydraulics will be necessary in order to evaluate ground-water impacts and plan effective mitigation. Thus, a well-planned and thorough test program should be included under mitigation, if ground water is to be used. The tests should be designed and interpreted to permit careful evaluation of the probable ground-water impacts over the life of the project and the probable rate and degree of recovery after completion of the project.

5 [Page S-12, paragraph 2, last sentence. This study should be concluded prior to completion of the final environmental statement (FES); otherwise, the preferred alternative would be identified prior to assessing all possible information which would affect its selection.

6 [Pages S-16 through S-18, Unresolved Issues and Areas of Controversy. The unresolved issues should be resolved prior to filing the FES.

7 [Page S-17, line 1. The Secretary of the Interior will make the determination on the Alton Mine unsuitability petition, not the Office of Surface Mining (OSM), as stated here. This was announced in the Federal Register within the last 2 months. See p. S-18, last paragraph, first sentence.

8 [Page S-17, number 3. The Assistant Secretary--Energy and Minerals approves life-of-mine mining plans based on the recommendations of OSM and GS. Once this approval has been made, OSM may then approve a 5-year plan of operations after receiving appropriate recommendations from GS.

9 [Page S-18, last sentence. See comments on pp. S-16 through S-18, Unresolved Issues and Areas of Controversy.

Response 73-2

OSM has not yet received a mining plan from UII to mine the Alton coal lease area. Information concerning the proposed mining of the Alton lease area as presented in the AWV final EIS was compiled from Development of Coal Resources in Southern Utah (USDI, USGS, 1979), Southern Utah Petition Evaluation Document (USDI, OSM, 1980), and from preliminary information received from UII. The information is not assumed to be complete or final, however, it was the best information available at the time of the preparation of the final EIS.

Response 73-3

BLM agrees with your comment, however, authority to require this type of monitoring lies with the Office of Surface Mining and the Utah State Water Engineer.

Response 73-4

Chapter 4, Alternative 1, Ground Water Pumping for Coal Slurry sections discuss the present testing program of UII. This program is being monitored by the Utah State Engineer, who has approval authority for the pending UII water applications.

Response 73-5

The study mentioned in your comment is included in the Air Quality sections of Chapter 4 in the final EIS.

Response 73-6

Considerable new information regarding unresolved issues and areas of controversy has been incorporated into the final EIS. Refer to Response 22-1.

Response 73-7

The text of the Summary is revised in the final EIS to reflect this comment.

Response 73-8

The text of the Summary is revised in the final EIS to reflect this comment.

Response 73-9

Refer to Response 73-6 concerning this comment.

Response 73-10

The description of Alternative 1 in Chapter 2 is changed as shown in the final EIS to reflect your comment.

- 116
- 10 [Page 2-1, Coal Mine. With reference to mining a 35-mile outcrop, only small areas would be exposed at any one time, as rehabilitation would proceed with the mining. The statement that the mine would occupy 8,328 acres is also misleading for that reason.
 - 11 [Raw coal is incorrectly shown to have higher Btu/lb. (9,647) than clean coal as fired (8,297).
 - 12 [Pages 2-1 and 2-5, Coal Mine. Total tons of coal from surface mining and from underground mining should equal total tons to be produced.
 - 13 [Pages 2-5 through 2-15. Maximum tons of coal to be consumed per year totals 14.4 million tons, which is in excess of raw coal to be mined (11 million tons) and nearly twice the amount of clean coal (7.8 million tons) to be produced. The projected power plant consumption seems excessive compared to coal-fired power plants now in operation in Utah.
 - 14 [Page 2-5, Coal Preparation Plant. Does water consumption of 9,700 acre-feet per year include water recirculation? Does it include slurry water?
 - 15 [Page 2-5, Coal Transport System. It is stated that about 11 million tons of coal per year would be transported. Although production of raw coal is 11 million tons (processed?) per year (p. 2-5), production of clean coal (to be transported) at the mine site is only about 7.8 million tons per year (312 divided by 40) (p. 2-1).
 - 16 [Page 2-22, Coal Mine. See comments above for p. 2-1 and pp. 2-5 through 2-15.
 - 17 [Page 2-25, Coal Preparation Plant. See comment above for p. 2-5.
 - 18 [Page 3-2, Mineral Development. Present production from Federal leases in Utah is about 8 million tons per year. Coal reserves are given for the Alton "coal fields," but probably represent only leased coal. Also, do numbers represent in-place or recoverable reserves?
 - 19 [Page 4-3, Topography and Geology, lines 9-10. 30 CFR Part 211 regulations are those of the GS, not OSM.
 - 20 [Page 4-3, Minerals Development, line 4. Delete "minerals."
 - 21 [Page 4-26, last paragraph. The drawdown/long-term pumping tests should be completed by the applicant prior to submittal of a mine plan and the results of these tests should be included in the final statement so that each alternative can be weighed in terms of the impact on users of the Navajo Formation aquifer. See p. 4-29, Role of Utah State Engineer.
 - 22 [Page 4-47, Alton Coal Field, paragraph 1, lines 4-5. Studies conducted as a result of the "Alton Petition" have indicated that blasting will have no effect on "delicate erosional features in Bryce Canyon."

Response 73-11

These figures were supplied by the applicants. The cleaned "as fired" coal would have a lower Btu per pound because of the moisture which would be added due to the slurry transport method. This added moisture would be burned along with the coal, decreasing the Btu output of the coal per pound.

Response 73-12

The text in Chapter 2 is revised in the final EIS to reflect the comment. However, the figures are approximated and are not based on a mine plan.

Response 73-13

It is not possible to translate average daily figures to annual figures reflecting the life of the project. The coal mine would work up to full production over a period of 10 years or more. Figures given are for full production.

The consumption of coal at the powerplant is based on the amount of coal necessary to heat the boilers to run the generators at 70 percent of capacity. Because the coal (as fired) is of low Btu content per pound, more coal would be needed to reach the required heat level.

Response 73-14

The water that would be pumped from the Navajo Sandstone (approximately 10,000 acre-feet per year) would be used for coal preparation plant operations and for the coal slurry mixture (refer to the description of Alternative 1, Chapter 2 of the final EIS).

Response 73-15

Please refer to Response 73-13 concerning your comment.

Response 73-16

Refer to Responses 73-12 and 73-13 concerning this comment.

Response 73-17

Refer to Response 73-14 concerning this comment.

Response 73-18

Refer to the discussion of the Coal Resources Quality and Availability section in Chapter 3 of the final EIS. These figures are for the Alton coal lease area only.

Response 73-19

The text is corrected to reflect the comment. See the Topography and Geology section of Chapter 4 in the final EIS.

Response 73-20

The word "minerals" is deleted in this line in the final EIS to reflect your concern.

Response 73-21

UII is presently drilling a test well into the Navajo Sandstone near Bald Knoll. A minimum 30-day aquifer testing program will attempt to determine aquifer characteristics. This test is being monitored by the Utah State Water Engineer and results will be analyzed in terms of effects on other

- 23 [Page A5-1, Department of the Interior. See comments for p. S-17, number 3.
- 24 [Page A6-1, number 1, and throughout part A6. It should be noted that the authorized officer not only applies to BLM, but also to OSM. Also, "authorized officer" should be defined on p. G-2.
- 25 [Page A6-2, number 12. The time limit of "1 year prior to proposed construction" appears to be lengthy. What is the legal basis for establishment of this time restraint?
- 26 [Page A6-2, number 13. If the "construction" or "changes in schedule" relate to mining operations (which is not clear here), then actions on the notification fall within the purview of OSM. See the memorandum of understanding among BLM/GS/OSM regarding the Federal coal management program.

aquifer users prior to approval of production wells. See the Ground Water Pumping for Coal Slurry section under Alternative 1 in Chapter 4 of the final EIS for further information.

Response 73-22

As shown in the final EIS, the text in the Recreation and Aesthetics sections of Chapter 4 has been revised in accordance with the finding of the blasting study conducted for the draft Southern Utah Petition Evaluation Document (USDI, OSM, 1980). See Response 22-16.

Response 73-23

Refer to Response 73-8 concerning your comment.

Response 73-24

The text is changed to reflect the comment. See Appendix 6 and the Glossary of the final EIS.

Response 73-25

Appendix 6 is revised in the final EIS to reflect this comment.

Response 73-26

The text is changed to reflect the comment. See Appendix 6 of the final EIS.

Bureau of Land Management
August 19, 1980
Page 2

P. O. Box 1103
Kanab, Utah 84741
August 19, 1980

Bureau of Land Management
Cedar City District Office
P. O. Box 724
Cedar City, Utah 84720

Re: Allen-Warner Valley Energy System
Environmental Impact Statement

Gentlemen:

The above-captioned document presents much of the most pertinent information in condensed and very useful form, however:

APPENDIX 14 (page A14-1) is deficient regarding the Colorado River Treaties, which are binding on the Federal Government and the signatory states including Utah.

ARTICLE XV (a) Subject to the provisions of the Colorado River Compact and of this compact water of the Upper Colorado River System may be impounded and used for the generation of electrical power, but such impounding and use shall be subservient to the use and consumption of such water for agricultural purposes and shall not interfere with or prevent use for such dominant purposes.

(b) The provisions of this compact shall not apply to or interfere with the right or power of any signatory state to regulate within its boundaries the appropriation, use and control of water, the consumptive use of which is apportioned and available to such state by this compact."

The proposed source of water which is tributary to the Colorado River which is not to be consumed in its state of origin may not be available because of these provisions. If so, they should be deleted and excluded from this project.

Also, the Final Draft should be up-dated to include the pertinent findings of a study by the United States Geological survey, in cooperation with the Utah Department of Natural Resources entitled Groundwater Conditions in the Upper Virgin

River and Kanab Creek Basins Area, Utah, With Emphasis on the Navajo Sandstone and any other important data that has or will be discovered. This study concludes (pages 91, 92) that the proposed water withdrawals will measurably reduce the flow of the springs and streams which supply the prior and primary vested rights of the area water users, for which they have no alternate source, to their irreparable harm, for which they have no adequate remedy at law. This study also finds that withdrawal of water in the proposed quantities will cause subsidence of the land surface and cause inflow of highly mineralized water thereby contaminating the aquifer to a point that the water would be unfit for human consumption or other useful purposes. Tests of the water from their well at Bald Knoll by the proponents proved that the water has stood in the aquifer for more than six million years proving that there is practically no leakage from or circulation through the aquifer. This proves that all significant recharge is to the alluvial slopes and valleys and exposed members of the Navajo Sandstone in the neighborhood of the surface streams, springs and wetlands, and that the volume of effective recharge is very nearly equal to the consumption by these surface uses before drilling of wells into the aquifer. Taking of water from distant wells may not be felt for years, or even decades, but eventually the cone of depression of the well will extend to the springs and wells of the local users, ruining the aquifer by subsidence, chemical pollution, and reducing or stopping the production from the springs and wells. The longer the interference is in appearing the longer it will continue with the cose of depression of proponents wells taking the water of resident users with a "Black Hole" like effect until the water lost by the residents equals the water taken by the proponents.

In the light of the aforementioned documents and disclosures the First Alternative listed in the Allen-Warner Valley Environmental Impact Statement or any other proposal to extract and export water from the Navajo Sandstone Aquifer should be disapproved and rejected.

The Utah State Engineer declared in the policy hearing mentioned in Appendix 14 that when wells take water from an aquifer like the Navajo Sandstone the surface seeps, springs, streams and wetlands are taken and destroyed. Kanab City, Utah, wells destroyed Three-Lakes Creek and reduced the flow of Kanab Creek. Wells into the Navajo have substantially destroyed Johnson Creek. The once verdant fields which are dry and barren in this all-time record heavy rainfall period are unrefutable evidence. The Alton project and slurry lines will take more water than the average annual recharge to the Navajo, evidenced by the production therefrom. The approval of this project will make the land between the Severe and Paunsagaunt Faults uninhabitable, destroying the livelihood and property of the residents.

Bureau of Land Management
August 19, 1980
Page 3

Rejection of the First Alternative is the only remedy.

3 [We feel that the waters of the Virgin River, which the City
of St. George, Utah, has rights, should be studied and considered
as an alternative to the waters of Kane County. That coal be
transported to the Virgin River water slurry line by truck or
rail.

4 [Also, as an alternative to the water slurry line itself the
use of either trucks or rail be contemplated.

As far back as 1964 Protests have been filed on water
applications, particularly No. 36047 (85-62), with the Utah State
Engineer. As of this date hearings have not been scheduled nor
have any dates been set for same (see attached copy of letter).
Until these hearings have been held and findings disclosed the
wells in Kane County should not be touched.

Sincerely yours,

KANAB IRRIGATION COMPANY

Norris Brown
Norris Brown, President

NK:cam



STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WATER RIGHTS

DEE C. HANSEN
STATE ENGINEER
EARL M. STAKER
DEPUTY

200 EMPIRE BUILDING
231 EAST 400 SOUTH
SALT LAKE CITY, UTAH 84111
(801) 533-6071
March 26, 1980

DIRECTING ENGINEERS
HAROLD D. DONALDSON
DONALD C. NORRIS
STANLEY GREEN
ROBERT L. MORGAN

Kanab Irrigation Company
c/o Mrs. Carol Ann Martin
Secretary
P.O. Box 1103
KANAB UT 84741

RE: Application No. 36047 (85-62)

Dear Mrs. Martin:

In answer to your recent letter regarding the status of the above-
numbered application, this is one of several applications filed by Utah
Construction Company, and are now in the name of Utah International,
Inc. The applications were filed April 14, 1964, but have not been
acted upon by the State Engineer. Hearings were once scheduled, but
were continued and have not been held.

The applications have been protested by you and others, and when they
are scheduled for hearing, you will receive notice of those hearings.

Yours very truly,

Stanley Green
Stanley Green
Directing Appropriations Engineer

SG:dph

cc: Gerald Stoker, Area Engineer

Norris Brown, Kanab Irrigation Company, Kanab, Utah

Response 74-1

(A) Article IV (b) of the Colorado River Compact provides as follows:

Subject to the provisions of this compact, water of the Colorado River System may be impounded and used for the generation of electrical power, but such impounding and use shall be subservient to the use and consumption of such water for agricultural and domestic purposes and shall not interfere with or prevent use for such dominant purposes.

Similarly Article XV (a) of the Upper Colorado River Basin Compact provides:

Subject to the provisions of the Colorado River Company and of this Compact, water of the Upper Colorado River System may be impounded and used for the generation of electrical power, but such impounding and use shall be subservient to the use and consumption of such water for agricultural and domestic purposes and shall not interfere with or prevent use for such dominant purposes.

The above limitations and the storage of Colorado River System water for hydroelectric generation purposes is not applicable to the proposal to appropriate and use water for the slurring of coal from locations in Utah to points in Nevada in connection with the AWV project. While the project water may be used as part of the overall system, which ultimately results in the generation of electricity, it would not be stored and used for the generation of electrical power and it is this latter purpose only to which the cited limitations apply.

(B) Article IV (c) of the Colorado River Compact provides as follows:

The provisions of this article shall not apply to or interfere with the regulation and control by any State within its boundaries of the appropriation, use, and distribution of water.

Article XV (b) of the Upper Colorado River Basin Compact carries similar provisions:

The provisions of this Compact shall not apply to or interfere with the right or power of any signatory State to regulate within its boundaries the appropriation, use, and control of water, the consumptive use of which is apportioned and available to such State by this Compact.

These provisions do not prevent the transportation of water from one State for use in another State, provided the States involved are agreeable to such transportation and use. These provisions recognize the rights of the States to appropriate, use, and control waters within their boundaries that are apportioned to them. If Utah chooses to take water within its apportioned share and which is located within its boundaries and assign it for transport and use in Nevada, these provisions, rather than prevent such a choice, recognize Utah's right to make it. The phrase "within its boundaries" in both subarticles refers to the water which the State may appropriate, use,

and control. It is not a limitation on the right to export such water should the State so choose. Utah has recognized its right to export water within its boundaries to other States by enactment of Section 73-2-8, Utah Code Annotated, 1953, as amended. That section provides as follows:

The State Engineer is hereby authorized and empowered to receive and grant applications to appropriate water from any source in Utah, where such water is to be conveyed and used for beneficial purposes within any State, and to issue certificates of appropriation for this water only after the State Engineer shall evaluate and make public the advantages to the State of Utah and its citizens of exporting water. The State Engineer shall cooperate with the State Engineer or other proper officer of any State in the determination, supervision, regulation and control of all water and water rights and to that end the State Engineer, by and with the consent of the Governor, may enter into agreements with the proper officer of any State to carry out the purposes of this subsection.

Provided that the sponsors of the AWV project comply with the foregoing provisions of Utah law and are awarded an appropriate right for export of water from Utah to Nevada, and further provided that compliance with applicable Nevada law is accomplished, there is no prohibition in the impacts relating to the Colorado River against such effort and use.

Response 74-2

To reflect your concern, an analysis of the study mentioned is included in the Groundwater Pumping for Coal Slurry section, Water Resources under Alternative 1 in Chapter 4 of the final EIS.

Response 74-3

Appendix 2 of the final EIS is a list and brief analysis of suggested alternatives raised at scoping meetings. Alternative 32 in that table, "Reuse Slurry Water Via Return Flow System", is the only alternative suggested which approaches this idea. Alternative 32 was not considered viable because of economic reasonability and energy efficiency. Alternative 26, "Rail Coal Instead of Using Coal Slurry", was not considered viable for the same reasons, so a combination of the two alternatives, as suggested, would not be feasible.

Response 74-4

The use of trucks to transport coal from the Alton coal lease area is discussed under Alternative 3 in the final EIS. See Response 12-5 concerning transportation of coal by rail from the Alton coal lease area.

75

DISTRICT COMMISSIONERS
C. A. Stevens
Chairman
F. M. Knight
Vice-Chairman
Georgia Wingren
Secretary
C. L. Goodwin
Marylin Schindler



Oak Hills
COUNTY SERVICE AREA NO. 70
Improvement Zone "J"
P. O. Box 274
Victorville, CA 92392

BILL SMILLIE
Water Facilities Manager
(714) 245-8232

CORA LEE GOODWIN
Secretary
(714) 244-9512

August 12, 1980

Mr. Morgan Jensen, District Manager
Bureau of Land Management
P.O. Box 724
Cedar City, Utah 84720

RE: S.C. EDISON'S ALLEN-WARNER
VALLEY ENERGY SYSTEM
TRANSMISSION LINES

Dear Sir:

Our area of knowledge and concern which we wish to refer to are the 500 KV transmission lines Southern California Edison proposes to run through the North Victorville, Mountain View Acres, Baldy Mesa and Oak Hills areas to the Lugo Sub-station.

These new 500 KV transmission lines, consisting of two sets of steel towers and necessary cable, are proposed to run Southwesterly from the Victorville area parallel to the Los Angeles Department of Water and Power lines presently in service. Edison proposes to have at least a 2000 foot separation between the DWP line and this new Edison line right-of-way. The existing DWP towers are about 110 feet high, and can be seen for several miles when in fairly flat country. The new Edison towers will be about 140 feet high, the height of a 14 story building. Each of the lines will have towers spaced about 1600 feet apart, or slightly over three per mile. This is a total of six towers per mile for both lines. Many transmission lines, to an excess, already traverse the area, and another corridor of 500 KV transmission lines through the area is inconceivable.

The area is rather completely subdivided and part of it is now enjoying a substantial growth due to the new CSA 70, Zone J, Water District. To have this area bisected by two large transmission facilities separated by 2000 feet would cause a "no-mans-land" in the 2000 foot corridor. The existing DWP towers are unsightly and undesirable but they have been there for over 40 years, so there is nothing which can be done about them. However, to have another line of steel towers 2000 feet from these DWP lines would be extremely objectionable, both from the standpoint of looks the effects of the high voltage on radio reception in most of the area. We feel that construction of these transmission lines as planned by Edison would depress a great portion of our district.

We would like to recommend strongly that Edison use an existing corridor which they are presently using for the PISGAH to LUGO line, going East from Lugo station through the Ord Mountains, Southeast of Hesperia, in an area with no inhabitants, in contrast to the rapidly growing area where they propose to run their lines. A route suggested the Public Utilities Commission staff, which would cross the desert about seven miles North of George Air Force Base and cut into existing Edison lines many miles West of Highway 395, would also be preferable to Edison's preferred route.

We strongly request that you use your influence in getting this routing changed. This would be greatly appreciated by hundreds of property owners and residents in the North Victorville, Mountain View Acres, Baldy Mesa and Oak Hills areas.

Very sincerely,

Cora Lee Goodwin
Cora Lee Goodwin, Secretary
CSA 70 - Zone 'J'

clg

Oak Hills County Service Area Number 70 - County of San Bernardino, California

Response 75-1

The Oak Hills County Service Area Number 70 is an organization under the auspices of the county, but only representing a small area of the county. A service area is an unincorporated area, often near a city and organized to facilitate preparation of plans for sewage and water systems, and also facilitates government grants for construction of these systems.

Regarding the recommendation from this group, any recommendation to route the AWV lines south into the Pisgah to Lugo corridor would require an amendment to the proposed California Desert Plan (see the Land Use, Land Use Plans and Controls section, Alternative 1 in Chapter 4 of the final EIS). This corridor also has some existing lines and some proposed new lines. To propose two 500-kV lines from the AWV project would raise questions of system reliability (i.e., too many lines in one corridor).

Although BLM has not analyzed the route proposed by CPUC which would go north of George Air Force Base, BLM would probably not oppose it. This route could only cross a few miles of public land. However, this route would be as impacting on private lands as the proposed I-15 route since it is longer, and it may also have high impacts on George Air Force Base and the city of Adelanto.

This proposal by CPUC appears to transfer the adverse impacts of transmission line routing from one area of private land to another. Also, the final routing of a transmission line would be accomplished during on-ground investigations that would take place as a part of the survey procedure as stipulated in the Standard Operating Procedures (Appendix 6 of the final EIS).

8-20-80

76

To Whom it may Concern:

I am writing in regard to the Allen Warner Valley project.

I want to protect the use of our water for the salarving and mining of the coal.

I have Water Rights on the Johnson Creek Drainage and I am very concerned that the drilling of all the wells and mining of the coal will result in a great water loss for the farmers and ranchers in this area.

As ranchers and farmers, we need every drop for our livelihood. Without water our crops and livestock perish.

It seems very likely that a water loss could occur with the drilling of so many wells and the pumping of them.

If this project goes through I feel very strongly that arrangements must be made

before it begins to insure that if a loss occurs in our water, we will be fully compensated for the water losses.

Sincerely,
Ralph Bunting
Box 332
Kanab

Ralph Bunting, Kanab, Utah

Response 76-1

Several recent studies have simulated the effects of pumping from the Navajo Sandstone aquifer for the coal slurry. The Groundwater Pumping for Coal Slurry sections in Chapter 4 of the final EIS present the results of these studies and recommends further aquifer testing.

2621 Bello Dr.
North Las Vegas, NV 89030
18 Aug 1980

District Manager, BLM
Cedar City District Office
1579 No. Main, P.O. Box 724
Cedar City, UT 84720

Dear sir,

Why should Nevada have another "Hoover Dam" where 80% of the energy is exported to southern California, and Nevada gets environmentally renewed?

To think that initially most of the power goes to Calif. with its understanding that Nevada in the future will get a larger share is hogwash. I cannot foresee Calif. giving up any power that it already has or will get.

The AUV project will take up too much water from "other uses" of growth in the Las Vegas Valley.

The Calif. Energy Commission (CEC) stated in its Biennial Report (1979) that, "Geothermal, cogeneration and renewable energy sources including solar should be expanded because of their favorable environmental characteristics, efficiency, more stable costs and the fact that they are indigenous to Calif."

Bryce Canyon National Park is too precious to have strip miners "do their thing" four miles away from the park in the name of the gross national product (GNP).

Because of the above, I oppose the AUV project,

Conrad C. Linton
Bob F. Maltz

Bob Furtek, Las Vegas, Nevada

Response 77-1

Being a member of a power consortium would allow NPC to provide power at more economical rates to their customers than if they were to absorb overhead costs of the project by themselves. Legal agreements would allow NPC to recapture generating capacity from SCE and PG&E as needed (within limits). Most of the water used for cooling the Harry Allen powerplant would come from the Clark County AWT plant.

Aug. 16, 80

MR. JENSEN --

I AM WRITING IN REGARDS TO
THE ALLEN-WARNER VALLEY PROJECT.

It seems to me to be unintelligent,
insensitive, & unnecessary. We are in
a time now where it is necessary to
conserve & seek and use alternative
energy sources which are now available
to be used. This will be the way of the
future, to tune into and work with
the natural environment instead of just
always taking beyond the limit & then
polluting on top of that. Putting a power
plant in the proposed area (or anywhere
for that matter) is another step in the
wrong direction!

It is really insensitive and unreasonable
to put such a "thing" in the fragile &
beautifully delicate desert area proposed.
The desert has just enough water as it
is, the plant would use too much & also
ruin Bryce & Zion national parks, leaving
them without the pureness & serenity they
now possess.

It would be better to sacrifice a small bit
of our so called 'high' standard of living
for a time, and leave the area beautiful
& clean for ourselves & future generations.

Sincerely Andrew Galer

Andrew Galer

Response 78-1

Your views are noted and will be considered in the decision making process.

721 Second Avenue
Salt Lake City
Utah 84103

Mr. Morris Jensen
District Manager
Bureau of Land Management
P.O. Box 724
1579 North Main Street
Cedar City
Utah 84720

Dear Mr. Jensen:

Concerning the Draft Environmental Impact Statement of the
Warner Valley Energy System:

After following the Allen-Warner Energy System for many years, it
becomes very obvious on what choices we have in developing Energy
Systems. There are the destructive aspects to Energy Systems as
developing the energy source (strip mining coal), developing the
water source (damming up the Virgin River and drying up desert
springs), saturating the air space (ultimately we may have a clean
coal-burning plant), and developing a land use (people will sub-
divide good agricultural lands or rob the Desert Tortoise of some
more living space and people (earning high incomes from construction)
will be buying recreational vehicles and further ruining of the
desert ecosystems will occur.

Yet Energy Systems are needed. We needed the Kaiparowits Energy
System. We needed Desert Sun Nuclear Power Plant. We are always
told that we need these systems. Yet as the cost of these systems
goes up, fewer and fewer people will need these new systems, which
will further drive up the cost of the present systems. Need is
a created term to develop projects before someone else can design
a better energy system.

Yet the destructive aspects of the Allen-Warner Energy System can
and should be postponed for several more years. The alteration of
the Virgin River should be prevented (Spring runoffs are a part of
the ecosystems and have been a part of the natural systems for
thousands of years). Strip mining of coal must be prevented until
all the the Central Utah Coal Supply is utilized. The unique
ecosystems of southwestern Utah must be preserved in the strictest
aspect (as closure to all but scientific investigations).

Furthermore, only one system in Utah should be developed at a time.
This would include oil shale, MX, IPP, and Green River Power System.
Presently IPP is being scheduled to begin construction, MX is being
tossed down on our unknown desert, oil shale is being tinkered with,
and the Central Utah Project is in a hazardous state of construction.
Enough is enough! Especially since there are not any opportunities
for biologist to conduct a ten year study on the Great Basin without
a major interruption of a scientific study. Consequently I urge
that you select Alternative #3 as the final solution to the Allen-
Warner Energy System.

Sincerely,
Peter Hovingh

Peter Hovingh, Salt Lake City, Utah

Response 79-1

Your concerns on these matters are noted and will be considered in the decision making process.

80

SINCE 1947

Zion Rest Motel & General Store

P. O. BOX 100 - SPRINGDALE, UTAH 84767 (801) 772-3244

LARRY AND JULIE MCKOWN - PROPRIETORS

August 18, 1980

Morgan Jensen
District Manager
Bureau of Land Management
P.O. Box 724
Cedar City, Utah 84720

Dear Mr. Jensen,

After studying the A.W.V. Energy System Draft, I would like to recommend Alternative 5 for this project.

I agree wholeheartedly with the CUPC that conservation, geothermal, cogeneration and renewable energy sources including solar "should be expanded because of their favorable environmental characteristics, efficiency, more stable costs and the fact they are indigenous to California. Likewise, many of these potentials are indigenous to Utah and Nevada.

With the I.P.P. project being placed in Central Utah, Southern Utah should have sufficient power to meet our growing needs. The geothermal potential in Central Utah also seems extremely promising.

I can't understand why Utah has to give up our clean air and water for only 5% of the production of this plant. Solar energy, the possibility of geothermal power and conservation of water resources can ensure a future of prosperity. Why dampen these prospects with a single act of exploitation, the Warner Valley project.

Sincerely,

Julie L. McKown

COLOR TV: CHEVRON STATION: CHEESE SHOP: UTAH STATE LIQUOR AGENCY: CAMPING SUPPLIES: GROCERIES:

Julie McKown, Springdale, Utah

Response 80-1

Your views are noted and will be considered in the decision making process.

81

Larry L. McKown
Box 100
Springdale, Ut.
84767
August 18, 1980

MORGAN JENSEN, District Manager
B.L.M.
P.O. Box 724
Cedar City, Utah 84720

Dear Mr. Jensen,

I've never seen a woundfin minnow, but I have seen the desert-like countryside surrounding Bishop, California. The green is gone and so is their water because of a power plant.

This letter is definately against the Warner Valley power project and proposed coal slurry. The entire plan is a gross lack of future planning and is not worth the price we must pay for our water, air quality, and the impact on nearby communities.

I urge you to not allow this obsolete plan to develop. We must look to the future, protect our land, conserve energy, and seek alternatives to our power needs.

Yours truly,

L. L. McKown

Larry L. McKown

Larry McKown, Springdale, Utah

Response 81-1

Your discussion is noted and will be considered in the final decision making process.

August 17, 1980

Harold W. Wood, Jr.
P.O. Box 99598
Tacoma, WA 98499

District Manager
Cedar City District
Bureau of Land Management
P.O. Box 724
Cedar City, Utah 84720

Dear Sir:

I wish to submit the following comments on the Allen-Warner Valley Energy System Draft Environmental Impact Statement.

As a whole, the statement does a good job of detailing the adverse environmental impacts of the utilities' proposal and various alternatives. The one flaw in the DEIS, which flows throughout it, is the fact that the proposals seem contingent upon so many as yet undetermined factors - eg. construction of the Warner Valley Water Project, and decision by the Secretary of the Interior on the Alton unsuitability petition; the document also repeatedly refers to the fact that investigations on impact to air quality and to wildlife is underway but not currently available for inclusion in the DEIS. Thus, it seems that the Draft Impact Statement was premature at this time, as so much data is admittedly unavailable. As a result, it is difficult for the public to make well-informed comments on the impact statement and upon the proposal itself; and the Impact Statement becomes merely a catalog of BLM busywork, with all the essential data to be added on later, at which time the BLM can make a decision without adequate public comment on the relevant data.

Despite these defects, it seems clear that Alternatives 1 through 4 all present severe adverse impacts to the environmental quality of a major part of southern Utah, and as the EIS notes, there is still no answer to the question of whether there actually is a need for the power in California, with the CPUC pending decision on this question. In cataloguing the various alternatives, it seems clear that Alternatives one through four all present serious environmental problems with negligible benefits. If the EIS process is to have any meaning at all, BLM ought to select the energy conservation/alternative energy sources Alternative #5 as its preferred alternative. The situation presented by the Allen-Warner Energy System is very similar to that recently considered by the City of Seattle in its "Energy 1990" program. After exhaustive research, and publication of a multi-volume report and analysis approximately four feet thick, the City of Seattle decided that the most economically feasible and environmentally sound solution to the energy needs of the next decade was to implement a strong energy conservation program. This program is now underway in Seattle, and if such a large city can undertake such a program, there should be little difficulty in implementing the same kind of program with the customers of PG&E and Southern California Edison. In this regard, the DEIS makes several statements of fact without any substantiation which appear to be patently wrong. On page 4-147 it is stated that "Many conservation activities should be initiated by individuals, not governments or utility companies." This is dead wrong, for it is the utilities and the government which can provide incentives such

Harold W. Wood, Tacoma, Washington

Response 82-1

As discussed in the Summary and Chapter 1 of the draft EIS, considerable information pertinent to the AWV Energy System was outstanding. Much of this information, including the OSM Southern Utah Petition Evaluation Document (USDI, 1980), the OSM/BLM/NPS Blasting Studies, the USFWS Biological Opinion, and the Region VIII EPA PSD preliminary decision has been completed and is referenced in the final EIS in Chapter 4. Where data is still incomplete or unavailable, a worst-case analysis has been performed.

Response 82-2

According to the CPUC staff recommendation (Purpose and Need of Proposed Project section in Chapter 1 of the final EIS), there is a need for the capacity represented by the powerplant to displace oil-fired capacity. There is also a need, however, to encourage the acceleration of alternative energy sources development and energy conservation (components of Alternative 5 of this EIS). This would require a concerted effort and a switch in priorities of individuals (turn off lights, reduced thermostats, etc.), local, State, and Federal governments (incentives, codes, laws, taxes, etc.), as well as utilities.

as low interest home energy conservation loans; tax credits for installation of solar collectors and insulation; and protection of solar access through solar envelope zoning. Although many energy conservation methodologies can be applied on a local scale and at the option of individuals, the utility companies involved here could play an instrumental role in promoting a sound energy conservation and alternative technology program. The very fact that sometimes initial conservation costs discourages consumers, as noted in the DEIS, points to the need for governmental programs to restructure tax rates and for utility companies to provide energy conservation loans to their customers.

Another clear misstatement of fact is made on page 4-147, where it is stated that "individuals would be reluctant to change their lifestyles to accommodate the conservation and loan management of energy." According to the Seattle Energy 1990 study, and other reports, the converse is true. Individuals are frequently extremely desirous of participating in energy conservation, not out of any patriotic motive, but simply because it makes good economic sense. Installation of solar technologies and insulation pays for itself over time, and since we are talking about future energy needs, many of these costs can be extremely low, as for example in passive solar construction which adds negligible costs to construction of homes but saves huge amounts of energy. Such techniques are, moreover, not merely the responsibility of individuals, but of development companies, utility companies, and local governments. BLM should deny the permit application, and select Alternative 5, which would put the onus on the utilities involved to make greater efforts to promote decentralized energy sources and energy conservation. Such a course of action is clearly, as the DEIS suggests, economically feasible and would by the year 2000 result in a net energy surplus. All that is needed to promote this course of action is for the utilities and local governments to participate in greater public education of alternative technologies and in giving economic/tax incentives for people to proceed in this direction. One method not mentioned in the DEIS is for the utilities to provide free home energy conservation inspections, concomitant with public education and economic incentives. This, and other approaches which the utility companies can take to implement Alternative 5 should be delineated in greater detail in the Final EIS.

In sum, I urge the BLM to reject the applicants' request for permits and to select Alternative 5 as its preferred alternative in the final EIS. Such a decision is clearly dictated by the severe adverse environmental courses of action of other alternatives, and would undoubtedly prove to be the most economically and socially acceptable course of action as well.

Sincerely,

Harold W. Wood, Jr.
Harold W. Wood, Jr.

Response 82-3

Alternative energy sources and energy conservation are finally being realized by the consumer as viable and cost-effective alternatives to conventional sources. However, studies show that the general public has been reluctant to implement such programs because of a general unawareness (Chapter 4, Alternative 5).

83

82 Havelock Street
San Francisco, CA 94112
August 19, 1980

SUBJECT: SOUTHWESTERN UTAH PARKLANDS
(Rejection of application
for proposed Allen/Warner
Valley Project)

Angela L. Olson, San Francisco, California

Response 83-1

Your concern in this matter is noted and will be considered in the
decision making process.

District Manager
Bureau of Land Management
Cedar City District Office
1579 North Main
P. O. Box 724
Cedar City, Utah 84720

Dear Sir:

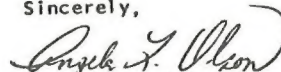
1 [As a concerned citizen for our environment, I am writing to ask your support in rejecting the application for the proposed Allen/Warner Valley Project - including the Kaiparowits Plateau. Any coal mining and power plant proposal for this area would be extremely detrimental to the national parks that are in that area - Zion, Bryce and even the Grand Canyon. These are fragile parks and their "likes" cannot be found anywhere else in the world. They are priceless areas to be protected and preserved so that future generations of our young Americans will be able to enjoy their beauty also.

Strip mining is terribly ugly and operating coal power plants would cause the deterioration of air and water quality. It would also cause a "boom" in population which this area is not prepared to handle. Water in this region is precious and not abundant. This land is truly very fragile and once destroyed - it cannot be duplicated ever again.

We visited this area last year and its beauty is something that we will remember and hold dear. We hope that our grandchildren will be able to enjoy it as we did.

Please do not allow this beautiful desert canyon country to be exploited - once it is gone - it will be no more.

Sincerely,


Mrs Angela L. Olson

August 17, 1980

Mr. Morgan Jensen
District Manager
B.L.A.
Cedar City, Utah 84720

Dear Mr. Jensen,

This letter is in regards to the proposed Allen-Werner Valley Energy System (AWVES). I have toured both the Alton Strip Mine and the Warner Valley power plant sites, and I have also kept informed about the issues and options involved in AWVES. I personally believe that the Warner Valley Plant and Alton coalfields will degrade both human and natural environments in southern Utah in order to supply unneeded energy. Please include this letter in the final EIS and kindly address the following issues:

- 1) Construction of the Alton mine, Warner Valley plant and connecting slurry line will cause socio-economic impacts on the surrounding communities. How severe will they be?
- 2) What will be the indirect effects on public lands of ORV recreation by the construction and operating work forces and their families?
- 3) How much and what types of air pollution will occur in southern Utah? The EIS should qualitatively and quantitatively address both direct and indirect pollution due to increased population in the area.
- 4) How will Bryce and Zion Canyon parks be affected?
- 5) What is the need for this system in light of the claim by the California Energy Commission that the Warner Valley plant is not the best way for California consumers to generate desired electricity?

After personally searching for answers to the above questions, I strongly support Alternative 5 as the preferred alternative.

Sincerely,

John Winkel
John D. Winkel
2625 Solar Drive #5
S.L.C., Utah 84117

John Winkel, Salt Lake City, Utah

Response 84-1

These points are addressed in the Socioeconomics section under Alternative 1 in Chapter 4 of the final EIS.

Response 84-2

As discussed in the Recreation and Aesthetics sections of Chapter 4 in the final EIS, ORV use would be expected to increase on public lands because of an increase in population due to construction and operating work forces and their families. Increased ORV use could disturb wildlife habitat and vegetation and increase littering.

Response 84-3

For how much and what types of air pollution would occur in southern Utah from powerplant emissions, refer to the emission rates cited in Appendix 13 and the Air Quality sections of Chapter 4 in the final EIS.

For a qualitative discussion of air pollution from population growth, use the Population Growth sections under Air Quality in Chapter 4 of the final EIS.

Response 84-4

Your concerns about Bryce Canyon and Zion National Parks are addressed in Response 37-2.

Response 84-5

Your concern about the need for the AMV project is addressed in the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS.

995 Bloomington Dr. S
Bloomington, Utah 84770
August 19, 1980

District Manager
Cedar City District
Bureau of Land Management
P.O. Box 724
Cedar City, Utah 84720

Dear Sir:

Following are my comments on
the Draft EIS on the Allen-Warner
Valley Energy System:

1) Sulphur control

We must insist that the EPA
requirement of 90% reduction for removal
of Sulphur content of the coal be
accomplished even though the coal is only
0.86% S. While we see that wet-line
scrubbers will be used, to scrub the flue
gas -- what back-ups will be provided when
this system is out for maintenance?
(Of course the exception of 0.60 lb./million Btu
allows a 70% reduction in potential emissions
during this condition or situation) See the
Federal Register Vol. 45, No. 26 (Feb. 6, 1980)

pp. 8210 thru 8233. This must be
applied to both plants even if coal
cleaning / beneficiation must be done to
accomplish the 70% or 90% requirements
respectively. In any event 90% of the 0.86% ^{0.86% Sulphur} million Btu

Laurence T. Eck, Bloomington, Utah

Response 85-1

NPC would be required by EPA to apply BACT (91.85 percent control of SO₂). Maintenance would be expected to be required infrequently. This concern is addressed in the Air Quality section under Alternative 1 of Chapter 4 in the final EIS.

must be removed either before or after burning. ⁽²⁾
2) Particulate Control

As a 10-year cabin and property owner on the Kolob Mtn Area (1 mile N. of Lava Point) there has been an extreme loss of visibility to the Strawberry Cliffs to the East. Some days you can hardly see them. (This is at 8000 ft. elev.)

There is no doubt the source(s) are Nevada Power - Granddall/Warm Springs and the Big Mohave Plant at Bullhead City. All of these have ESP's which is good evidence that Bag Houses must be required on the A-ven - Warner Valley Units to accomplish the particulate emission control to meet the requirements even tho more costly to operate than the ESP's. Since neither of the A-WV plants are for peaking, there should be no excuse for not providing bag houses.

Bag houses will remove the ultra-fine particulates that are the respirable portion affecting the health of all people at the higher elevations to the northeast of these plants. I am certain there will be EPA standards in the future that will require the ultra-fine removal. (See Chemical Engrg. Article - Feb. 11, 1980 - pp. 57 & 58, as Attachment #1.)

Also -- under the upcoming retrofit program all of the existing Nevada Power units must be equipped (the Big Mohave, too)

Response 85-2

The proposed powerplants would have to meet BACT as determined by EPA. The applicant is committed to about 99.5 percent control of particulates using electrostatic precipitators. This would meet EPA's BACT requirement. Use of baghouses would be feasible, but is not being considered. The applicant proposes backup systems so that in case of equipment malfunction, particulate control would still be achieved.

③ with improved particulate control, especially for collection of the ultra-fines which can have a major public health problem for future generations living downwind of these plants. The EPA limits of 0.03 lb./million Btu and 99% reduction in particulates must be achieved + required!

3) NOx Control

While we read that BACT will be fully utilized, we must insist that low-NOx burners be provided in the design to limit the temperature achieved in the boilers/burners. The NOx "brown ring" around the valley between Glendale and ^{Dr. La. 3} this railway to the Lime plant in the Pass to Las Vegas is unacceptable for any future operations of the Nevada Power Units as we in ^{the} Southern Utah are downwind of all this unhealthful, poisonous gas. Warner Valley must also be so equipped to assure achieving the 0.6 lb./million Btu for the NOx emission limit of the EPA Std for bituminous coal.

4) Slurry vs. Rail Shipment

A recent article in Chemical Engng.* for June 16, 1980 states that studies and comparisons of slurry vs. rail costs for the Alton coal shipped from Utah to Nevada ranges from \$7.68 to \$9.60 per ton for the rail transport. This compares with \$13.60 to \$22.68 per ton for the
(X Attachment #2)

Response 85-3

The powerplants would be designed to limit NO_x emissions to the highest degree possible. However, NO_x control is not completely possible, and even with BACT, NO_x emissions would be greater than any other pollutant. Maximum control is not yet feasible.

Response 85-4

The concerns of your comment are addressed in Response 12-5.

④
slurry transport system. While we understand that this higher cost for the slurry method would include the capital investment recovery over the life of the project, there has been no allowance for the severance of the water from the State of Utah to Nevada 5-6000 (per year)

5 Nevada The approx. 27,000 Acre-ft of water required for the coal slurry project to convert to 5.2 millions gallons per day using a 365 day-year. This would be higher proportionally for say a 250-day year involving 5-day per week operation.

In view of the costs shown in Attachment #2 and the major ^{water} drain on the Navajo sandstone formation, it is in my opinion that Utah be entitled to a water severance tax to reimburse existing users for drilling deeper wells and/or additional water source costs for municipalities being affected. The final impact statement, therefore, must consider a line item for this water loss to Nevada.

I trust that the above items will receive your consideration.

Sincerely,
Lawrence T. Eck
LAURENCE T. ECK

6 P.S. - PSD requirements for Class I Areas may govern all of the above air quality comments.

Response 85-5

Issues concerning water rights are a State matter and any decisions regarding these issues will be made by the Utah State Engineer.

Response 85-6

Your concern about the PSD requirements is fully considered in the Air Quality sections of Chapters 3 and 4 in the final EIS.

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ALLEN-WARNER VALLEY ENERGY SYSTEM
DRAFT ENVIRONMENTAL IMPACT STATEMENT
WRITTEN COMMENTS

SPECIFIC COMMENTS - SUMMARY

Rudger M. Mc Arthur

August 20, 1980

Comment
Number

1. Page 3-31, Para. "Population". "The St. George area communities (which have had higher than average growth rates in the 7 to 10 percent per year range)".

Page 1-4, First Table. The first table projects population increases in the area ranging from "2.1% in the town of Ivins" to "3.2% in the town of Santa Clara" and showing St. George an annual compound growth rate of "2.2%".

Comment: Because of the significant impact proposed population projections play in the EIS procedure it is imperative that we have accurate information so that any conclusions reached as a result of the preparation of the EIS will be meaningful.

Many years ago in projecting the power and water needs of the City of St. George we projected on a 7 percent annual compound population increase. This method of projection has proven very accurate.

The City of St. George, in cooperation with seven other cities, retained Fox & Company to do a population survey in connection with Utah House Bill 303. This population projection was available to BLM when the EIS was prepared. That projection prepared for the Utah State Fiscal Legislative analysts indicate that the St. George population as of December 31, 1979 was 14,824.

Rudger M. McArthur, St. George, Utah

Response 86-1

Based upon the recently available Preliminary 1980 Census figures for Washington County, the population projections contained in Appendix 11 of the final EIS have been revised as shown in the final EIS. These revisions do not, however, include the 7-percent annually compounded growth rate for St. George that has been cited by some city and county officials because it cannot be supported by the independent census figures. Nor, in reviewing past Washington County population baseline studies (Population and Economic Base Study, 1971, compiled for the Washington County Planning Commission by the Planning and Research Associates of Salt Lake City), can historic growth trends of such a magnitude for the city be supported.

While the Preliminary 1980 Census figures do indicate considerable growth in the vicinity of St. George, it has been centered more in areas such as Washington, Santa Clara, Ivins, and Bloomington-Bloomington Hills. As such, it is not possible to accommodate requests that a 7-percent growth rate be utilized in projecting population figures for the city of St. George.

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Before the statement is submitted to the Secretary of the Interior as a decision document all references to population increases in the Washington County area should be brought to a level of increase not less than 7%. In the EIS information to the contrary should be removed and all population projections should be updated to that rate of increase.

2. Page S-4, Para. 3. "However, BLM assessment indicates that St. George would not need the power represented by the AWW Energy System, provided that the existing purchase power contract with Utah Power & Light Company would be continued and added to meet future energy demand".

Comment:

It is interesting to note that in an order issued by the Public Service Commission of Utah, dated June 9, 1980 approving a wheeling agreement between the city of St. George and C. P. National contained the following information. "Also, we have previously concluded that Utah Power and Light should not enter into long term firm power supply contracts for resale to nonjurisdictional customers".

In the same order, Paragraph 7, "Nothing contained in this report and Order should be construed as an approval of any resale electric service agreement which may exist between Utah Power and Light Company and the City of St. George. Utah Power and Light Company is not before the Commission in this case."

Further, "The Commission retains jurisdiction to direct termination of the Wheeling Agreement at any time following expiration of the initial term, July 1, 1982, provided however that no such

Response 86-2

Refer to the updated section on Purpose and Need of Proposed Project in Chapter 1 of the final EIS for a discussion concerning your comment.

termination shall be ordered except upon notice and hearing. Proceedings for further hearings in connection with the matter may be instituted by the Commission on its own motion; by CPN; by St. George; or by any other interested party. Nothing in this order shall be construed as approval of any resale electric service agreement which may exist between Utah Power and Light Company and the City of St. George."

There is sufficient evidence to conclude there is no long term firm energy supply contract between the City of St. George and Utah Power and Light. There is no long term wheeling contract in evidence between the City of St. George and CPN over whose transmission system power purchased from Utah Power and Light must be wheeled. There is no transmission capacity between Utah Power and Light system and the City of St. George system to adequately meet the present requirements leaving no capacity for future transmission requirements for the City of St. George.

3. Page 3-34, First Table. Indicates a peak demand of 48.88 during the year 2000.

Comment: The peak requirement of the City of St. George has exceeded 32 megawatts as of this date. It is unrealistic to believe that for the next 20 years demand will increase no more than 17 megawatts.

Based on population projections that we have established, and that of Burns McDonnell, the need for electrical energy by the City of St. George during the year 2000 would be 123.4 megawatts.

In view of this information it would be appropriate for the

Response 86-3

These concerns have been noted and some revisions are made in the final EIS. The revisions, however, are based upon the following sources: population projections are from table 1, Appendix 11; per capita consumption constants are from Energy Conservation Alternative for the Allen-Warner Valley Project (Centaur Associates, Inc. 1980); and ratios of needed generating capacity to peak demand (load factor) are from Burns and McDonnell (1977). Revisions in the text are located in the Existing and Projected Electrical Energy Demand section of Chapter 3 in the final EIS.

★★
★★

preparers of the EIS to remove the schedule on page 3-34 and insert the projections of Burns-McDonnell as contained in their letter dated December 12, 1979 updating the 1977 feasibility study prepared by Burns-McDonnell for the City of St. George.

4. Page 2-44, Para. 1, second line. "Depending upon the type and extent of system employed in any given situation, solar water heating systems are currently moderate to high expense items for the consumer. This is the case partially because such systems still generally require a conventional type of back-up system."

Comment: You end up having coal fired generation some place either in the initial stage or as a back-up to other systems which are not totally reliable. The energy requirements of our City can best be met by the Warner Valley Power Generating Station. We would have short transmission lines which would reduce the cost to our consumers from point of generation to point of use. We would have ownership, and an opportunity to control, to some degree, the price we pay for the service that we make available to the people of St. George. The only economically feasible and reliable supply of electrical energy for St. George is the Warner Valley Power Plant.

Response 86-4

The implementation of such systems as solar water heaters and space heaters is inherently dependent upon a backup energy source. The solar units, if installed, would reduce the need for additional power and are not designed to replace all existing power generating facilities.

Other alternatives to the Warner powerplant include the construction or upgrading of transmission lines only, and not the construction of a new powerplant. These are also economical alternatives.

5. Page S-4, Para. 5. "Information developed by Centaur Associates, Inc. (a BLM contractor) indicates that the need for a municipal water supply to serve several southern Utah communities has been met by a separate water development: The Snow Canyon Project. There would, however, be several potential uses for the impounded water, such as agricultural or recreational uses.

Page 1-3, para. 5. "According to a recent BLM-sponsored study, however, only a small portion of the proposed municipal

water supply system would be needed (Socioeconomics, Centaur Associates, Inc., 1980). The study indicates that with the recently completed Snow Canyon Water Project located northeast of St. George, the following municipal water supply/demand situation would exist by the year 2020."

Comment: In 1967 the City of St. George developed a system known as the Gunlock System that made available to us 12 cubic feet per second of water. By 1979 we had completely utilized this source as well as the other sources of water available to us. This means that we must develop at least one cubic foot of water per second per year to meet the requirements of the municipalities in this area connected into the system of the City of St. George. The Snow Canyon Development makes available 6 c/f/s of water which will take us approximately to the year 1985 when we plan to have water available to us from the Warner Valley Project.

Since we have been working on the Warner Valley Proposal since 1973, all of the water that we have developed is in anticipation that the Warner Valley Reservoir will make water available to us in 1985. Anything else is merely stop-gap to meet our needs until that time.

6. Page 4-31, Table 4-4. "Present Water Supply and Projected Water Requirements (Expressed in Million Gallons Per Day)"

Comment: This table predicts that the City would require 4.926 million gallons of water per day during 1980 and 10.987 million gallons per day during 2020. It is interesting to note that during 1977 we reached a maximum peak requirement of 9.072 million gallons per day, that on July 29, 1980 we used 11.1 million gallons in one day.

Response 86-5

Refer to the updated water needs section in the Purpose and Need of Proposed Project section of Chapter 1 in the final EIS concerning your comment.

Response 86-6

Your concern about water needs is addressed in the Purpose and Need of Proposed Project section of Chapter 1 in the final EIS.

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This leaves Table 4-4 page 4-31 a complete misrepresentation of existing known facts.

The rule-of-thumb is that one c/f/s of water will serve 1,000 people. Although we have exceeded that in the past for the sake of presentation and computation lets stay with the rule-of-thumb. The daily gallon requirement to serve 14,000 people would be 9 million gallons per day. By continuing the present population increase to the year 2020, as projected for water requirements on the table, the maximum daily requirement would be 137.000 million gallons of water rather than the 10.987 million gallons indicated in the Centaur Associates Table 4-4 on page 4-31. This table should be removed from the EIS or corrected to state the facts.

7. Page 2-16, Table 2-3. "Proposed Distribution of Water Uses"

Comment: This table indicates the request for water by various agencies received by Washington County Water Conservancy District. All references to water needs should be based on this delivery schedule throughout the entire EIS.

8. Page 2-59, Table 2-20. "Cumulative Summary of Major Impacts." "One property listed on the National Register Destroyed."

Page 4-46, Para. 1. "Construction of the proposed diversion and canal structure needed to feed water to the proposed reservoir would destroy the historic diversion structure".

Comment: This is totally inaccurate. Contact with the Preservation Arm of the Utah Historical Society indicates that the area has been investigated, that the original diversion site, what is left of it, can be preserved by building around it or more properly a plaque or monument indicating the location of the original site. There is nothing in the proposal that will destroy any national

Response 86-7

Even with the applicants' proposed diversion schedule of the Virgin River, the delivery schedule would not be met. It is not possible with the amount of water that would enter the proposed reservoir annually.

Response 86-8

BLM contact with the Utah State Historic Preservation Officer indicates that the existing physical remains of the Hurricane Diversion would be altered by the construction of a concrete diversion dam on the existing site. Although documentation of existing remains would occur and a monument or plaque would be placed on the location of the original site, the physical remains of this National Register Property would indeed be altered.

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registered property. This statement must be removed from the EIS.

9. Page 4-33, Para. 3. "The State of Nevada wishes to enter negotiations with the State of Utah on their proposed Virgin River water compact. Such a compact could result in modifications to the Warner Valley water project and proposed diversion and delivery schedules. The State of Utah has, to date, declined to enter into negotiations.

Comment: The State of Utah will continue to decline to enter into any such negotiation. Since we have started the preparation of this statement it has been an unending effort to impress the preparers of the EIS that water rights and the allocation and use of water remains a state right. There is no intention on the part of the State of Utah, any of its arms of government, the Washington County Water Conservancy District, or any of the people that it serves, to enter into or to acquiesce in any contract that would change the present compact use of the waters of the Virgin River

The Memorandum Decision of the State Engineer granting the use of waters of the Virgin River to the Washington County Water Conservancy District has been challenged and upheld by the Fifth District Court. Any reference to use of waters of the Virgin River in another state as having any impact on the Warner Valley Reservoir proposal should be stricken from the EIS.

10. Page S-5, Para 6. "Habitat of the officially listed endangered woundfin minnow (*Plagopterus argentissimus*) would be adversely affected by the construction and operation of the proposed Warner Valley water project.

Comment: At the invitation of BLM a study group was put together including representatives of BLM, Utah Division of Wild Life Resources, consultant of US Fish and Wild Life Resources, and the staff and

Response 86-9

The effects on the Virgin River system section of Chapter 4 in the final EIS is revised to reflect the information provided by your comment.

Response 86-10

As evidenced in the biological opinion of October 1980 (Appendix 15), the recently completed USFWS studies on the woundfin minnow conclude that the flow requirements for this species are substantially greater than those proposed by the project applicants.

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consultants of Vaughn Hansen and Associates.

This study analyzed the habitat of the fish during the driest year of recorded history (1977). The report refutes the biological opinion of April 3, 1978 and establishes the inadequacy of the opinion to properly assess the woundfin minnow question.

The Vaughn Hansen report should be more fully utilized in the preparation of the EIS. The Warner Valley Reservoir Proposal was designed to adequately protect the habitat, and in fact improve the habitat, of the woundfin minnow.

August 15, 1980

District Manager
Cedar City District
Bureau of Land Management
P.O. Box 724
Cedar City, Utah 84720

Dear Sir:

As a concerned citizen I would like to see the following issues and concerns addressed the the draft Environmental Impact Statement on Nevada Power Company's proposed Allen-Warner Valley Energy System:

1. Additional study and comment is needed concerning adverse affects on quailly at Valley of Fire State Park. Air quality in this area is already impacted by the Reid-Gardner Power Plant in Moapa Valley. Additional deterioration of air quality could reduce the value of recreational experiences within the park and adjacent public use areas.

As a registered Natural Landmark, Valley of Fire is recognized nationally for its outstanding scenic, geologic and archeological features. The park is also of statewide significance as Nevadas' oldest and largest State Park. The issue of reduced air quality along I-15 near the proposed plant plus adjacent areas should be addressed.

2. In addition to a sufficient evaluation of air quality impact by Harry Allen plant, the increases in air pollution from the expansion of Reid-Gardner plant and the pollution emitted by Harry Allen should be analyzed together.

3. Air Pollution monitoring should be done by local, i.e., Clark County, agencies. Existing monitoring responsibilities should be analyzed and recommendations made for public comment.

4. As explained in the scoping document, the California Public Utilities Commission has not completed their assessment of need for the power generated by the Allen-Warner project. Thus, the comment period should be extended ninety (90) days to allow for public review of this and all other as yet incomplete reports.

Carol F. Hunter, Las Vegas, Nevada

Response 87-1

The analyses have shown that visibility would be impaired at the Valley of Fire and Class I increments for SO₂ could be exceeded. However, it must be recognized that Valley of Fire State Park is currently a Class II area, and until the State of Nevada would reclassify the park as Class I, Class II standards apply. The analysis indicates that Class II standards would be met and Class II areas presently are not afforded protection from visibility impairment. The area along I-15 is a PSD Class II area and all Class II increments and NAAQS would have to be complied with before the issuance of a PSD permit. At the request of the State of Nevada, BLM treats the Valley of Fire as a Class II area in the final EIS. Refer to air quality sections of Chapters 3 and 4 of the final EIS.

Response 87-2

No cumulative modeling studies have been performed. This analysis will have to be performed before a PSD permit could be issued for the Harry Allen powerplant. Cumulative impacts would have to be determined by EPA, because they will be allocating the PSD increments.

Response 87-3

Refer to Response 52-2 for a discussion of this concern.

Response 87-4

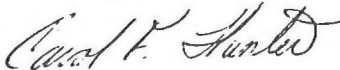
Your comment concerning an extension of time is addressed in Response 43-3.

August 15, 1980

- 5 [5. Potential impact on Las Vegas Wash/Wetlands Park that will be created by removal of water from Clark County Advanced-Wastewater Treatment Plant should be analyzed and presented for public comment.
- 6 [This area is of regional significance as a wildlife habitat, special ecosystem and recreational area. It is probably the most productive area biologically, in Nevada, with 267 species of birds and other wildlife.
- 6 [6. I question the validity of the simulated photograph for the Harry Allen Power plant (pg 4-111). The represented size of the power plant in relation to the homes and vegetation in the foreground is not realistic nor believable.
- 7 [7. The discussion of interrelationships with other projects and proposals should include the entire interstate importation of energy (electrical) to serve the Southern California urban area.

There does not seem to be an established need for this much power in Southern California or Southern Nevada.

Sincerely,



Carol F. Hunter
5081 Village Drive
Las Vegas, Nevada 89122

Response 87-5

Significant impacts to the Las Vegas Wash/Wetlands Park would not occur because the present discharge of approximately 66 mgd of effluent into the wash would basically remain unaltered. Under full production capacity, the Harry Allen powerplant would require approximately 24.5 mgd of effluent from the AWT for cooling purposes. The transfer of 24.5 mgd from the AWT to the Harry Allen plant instead of the wash would be minimal since future growth in Clark County would produce 30 mgd of new effluent. This is discussed in more detail in the Dry Lake, Nevada and Las Vegas Wash sections of Chapter 4 and the Wetlands and Floodplains section of Chapter 3 in the final EIS.

Response 87-6

Your perception of figures 4-13 and 4-15 in the draft EIS is accurate. The siting of the powerplant is incorrect. The figures are changed in the final EIS to reflect your comment.

Response 87-7

Your concerns about interrelationships with other projects and proposals are addressed in the Interrelated Projects section under Alternative 6, Chapter 4 in the final EIS.

NEVADA POWER COMPANY
FOURTH STREET AND STEWART AVENUE
P.O. BOX 230 • LAS VEGAS, NEVADA • 89154

88

August 22, 1980

Mr. Morgan Jensen
District Manager
Bureau of Land Management
1579 N. Main Street
Cedar City, Utah 84720

SUBJECT: Allen-Warner Valley Energy System
Environmental Impact Statement Draft

Dear Mr. Jensen:

The Participants in the Allen-Warner Valley Energy System submit the attached comments on the Bureau of Land Management's Draft Environmental Impact Statement.

The Participants' specific comments are limited to substantive issues and concerns. However, the following are general comments regarding the Statement which we also want to present for your consideration:

1. The Energy System is needed to provide service to the respective customers of the participating utilities. The benefits of the system to the people in the States of Utah, Nevada and California have not been given enough weight within the Statement. The importance of the Energy System in meeting the goal of national energy independence also has not been stressed.
2. There are numerous problems with the technical discussion on the visibility impacts at Zion National Park. Nowhere in publication is there a validation of the techniques used for the visibility discussion or simulation presented in Chapter 4. Without validation of the air modeling or the computer simulation, these simulations can only be considered as misleading, doctored pictures. Thus, we believe the entire visibility discussions regarding Zion National Park as presented within the Draft Statement should be removed.
3. The population projections due to construction are greatly overstated. It is hard to conceive that a three-month peak construction population in 1983 of approximately 1,000 employees could create a population increase in Washington County of 8,000. The socioeconomic section and discussions should be completely reviewed. Information supplied both by the Energy System and local governmental planning agencies should be used, where possible.
4. Throughout the Draft Statement there has been inappropriate and unwarranted reliance on California Energy Commission staff statements. In the attached, we have addressed the value of the staff comments of the CEC and PUC where there has been no official action of either Commission.

Nevada Power Company, Las Vegas, Nevada

Response 88-1

Refer to the revised discussion in the Purpose and Need of Proposed Project section of Chapter 1 in the final EIS concerning these points.

Response 88-2

As you have pointed out, dispersion modeling to predict air quality impacts has recognized uncertainties and visibility modeling has additional uncertainties added to these. Uncertainties have, however, been dealt with before in impact statements. Although you may feel (and perhaps justifiably so) that application of visibility modeling is not justified at this time, it still remains that the Federal Land Manager (in this case, NPS) is mandated under the Clean Air Act to make certain judgments in conjunction with EPA related to potential effects on air quality related values (including visibility). This must be done using the best available tools and the present state of the art, recognizing the limitations in the decision process. One of these tools is visibility modeling. To our knowledge, no visibility model has been universally accepted, adequately evaluated, or validated. The model used by LASL has been described in the scientific literature and been subjected to peer review. As indicated in Appendix 12 of the draft EIS, Williams, Treimin, Wecksburg, and Leonard have published articles on the technique in the Journal of the Air Pollution Control Association (1980). Proceedings of the Society of Photo-Optical Instrumentation Engineers 1978, and in the Los Alamos Scientific Laboratory (LASL) report LA-8105-MS in October 1979. The model has also been subject to further peer review at a presentation at the annual JAPCA meeting in Houston in 1979, and at the APCA Visibility Specialists Conference in Denver in 1980. The model has been reviewed by Environmental Research and Technology (ERT) in a DOE-funded study along with the Systems Applications, Inc. (SAI) and DOE models. Additional opportunity for review will be available at the Grand Canyon Visibility Symposium in November 1980. LASL has submitted the paper "Validation and Sensitivity of a Simulated Photograph Technique for Visibility Modeling (Williams, LoYim Chan, and Lewis).

Response 88-3

As shown in the Socioeconomics section under Alternative 1 in Chapter 4 of the final EIS, the text has been changed to reflect your comment.

Response 88-4

CPUC staff is preparing the technical, economic, and environmental reports as part of the processing of the application by the California participants of the AWV project for a Certificate of Public Convenience and Necessity. The staff report recommendations will be used by the Commission as a basis for answering the application. Because the decision concerning the application will not be made by the Commission until at least January 9, 1981, the information compiled by the staff is used in the EIS as a basis for analyzing the aspects concerning the participation of the California utilities.

The CEC is the agency responsible for forecasting energy demand in California and is also intervening in the need portion of CPUC's proceeding for the licensing of the AWV project for the California utilities (SCE and PG&E). The CEC was contacted for input in developing the Purpose and Need of Proposed Project section of Chapter 1 in the final EIS. CEC is also the responsible agency for compiling information that is used for the planning of energy development and allocation for the State of California. Much of the discussion in Alternative 5 in this EIS is based on this information.

Mr. Morgan Jensen
Page two
August 22, 1980

5. Alternatives 2 - 6 identified within the Draft Statement do not provide the needed energy offered by the Energy System. The alternatives, are not, in fact, real alternatives. In addition, there has been no economic feasibility discussion or studies regarding the suggested alternatives. The participating utilities have the responsibility to provide reliable service to their customers, therefore, we believe that the alternatives must provide the total energy requirements as well as having economic feasibility.

To reduce the volume of comments in this submittal, in many instances a comment has been provided at a single point on a specific concern. By doing so it is assumed that the Bureau would apply the comment in all sections of the Draft Statement as applicable. Each comment is given in the form of a recommended change when applicable with supporting comment. Each specific comment is referenced to the page and paragraph giving rise to the comment.

If you have any questions regarding this submittal, please feel free to contact me at (702) 385-5804.

Sincerely,

John W. Arlidge
John W. Arlidge
Manager, Special Projects

/ab

Attachment

cc: Gary Wicks, State Director, Utah Bureau of Land Management Office

Response 88-5

Alternatives 2 through 5 were developed using a screening matrix (Appendix 2). These alternatives were found to be economically feasible (within 20 percent) according to the matrix analyses. For more information, refer to the discussion of energy needs in the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS.

Add
<Delete>

ALLEN-WARNER VALLEY ENERGY SYSTEM
DRAFT ENVIRONMENTAL IMPACT STATEMENT
WRITTEN COMMENTS

SPECIFIC COMMENTS - SUMMARY

Comment
Number

- 146 6
1. Page 5-1, Para. 2. Delete <"After initial operation...Nevada Power Company would recapture station capacity...to supply their customers electric energy needs."> Add: "Initially Nevada Power Company will obtain 8% of the output from the Harry Allen Station. However, thirteen (13) years after the in-service date of the first unit of the station Nevada Power Company can recapture station capacity from Southern California Edison and Pacific Gas and Electric in annual increments to supply its customers' electrical energy needs. Thus, ultimately 100% of the Allen Station will stay in the Southern Nevada area."

Comment: It should be noted that Nevada Power Company will recapture power from the Allen Station, only.

- 7
2. Page 5-4, Para. 2: "On May 21, 1980...would be developed".
Comment: The treatment of the CEC staff statement implies that the California Energy Commission is required to make a determination on the need for the project. It is the California Public Utilities Commission which has the legal responsibility to make this decision--the California Public Utilities Commission has already ruled (in the MWVES proceeding) that although they will use the CEC forecast to

Response 88-6

The Introduction section of the Summary has been changed in the final EIS to reflect your comment.

Response 88-7

Refer to Response 88-4 for a discussion concerning this matter.

determine the demand for energy, they will not rely on the CEC supply analysis in their determination of need. This section should be rewritten to reflect this.

3. Page S-4, Para. 3. Delete <"However, BLM assessment indicates that St. George would not need the power represented by the Allen-Warner Valley Energy System, provided that the existing purchase power contract with Utah Power & Light Company would be continued and addended to meet future energy demand".>

Comment: It is interesting to note that an order issued by the Public Service Commission of Utah, dated June 9, 1980 approving a wheeling agreement between the City of St. George and C. P. National contained the following information. "Also, we have previously concluded that Utah Power and Light should not enter into long term power supply contracts for resale to nonjurisdictional customers".

In the same order, Paragraph 7, "Nothing contained in this report and Order should be construed as an approval of any resale electric service agreement which may exist between Utah Power and Light Company and the City of St. George. Utah Power and Light Company is not before the Commission in this case."

Further, "The Commission retains jurisdiction to direct termination of the wheeling agreement at any time following expiration of the initial term, July 1, 1982, provided, however, that no such termination shall be ordered except upon such notice and hearing. Proceedings for further hearings in connection with the matter may be instituted by the Commission on its own motion; by CPN; by St.

Response 88-8

The discussion on energy needs is revised according to updated information. See the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS. The assessment by BLM still indicates, however, that St. George does not need the power represented by the AWV project.

George; or by any other interested party. Nothing in this Order shall be construed as approval of any resale electric service agreement which may exist between Utah Power and Light Company and the City of St. George.

There is sufficient evidence to conclude there is no long term firm energy supply contract between the City of St. George and Utah Power and Light. There is no long term wheeling contract in evidence between the City of St. George and CP National over whose transmission system power purchased from Utah Power and Light must be wheeled. There is no transmission capacity between Utah Power and Light system and the City of St. George system to adequately meet the present requirements; thus, leaving no capacity for future transmission requirements for the City of St. George.

4. Page S-4, Para. 4. Delete paragraph starting <"Based on...for the year 1990.">"

Comment: See comments above about Page S-4, Para. 2 and Para. 3.

5. Page S-4, Para. 5. "Information developed by Centaur Associates, Inc. (a BLM contractor) indicates that the need for a municipal water supply to serve several southern Utah communities has been met by a separate water development: The Snow Canyon Project. There would, however, be several potential uses for the impounded water, such as agricultural or recreational uses.

Page 1-3, Para. 5. "According to a recent BLM-sponsored study, however, only a small portion of the proposed municipal water supply system would be needed

Response 88-9

This comment is addressed in Responses 88-4 and 88-8.

Response 88-10

Table 6 (Baseline Water Needs Projections) of Appendix 11 has been revised in the final EIS to reflect changes in baseline population projections. However, using a consumption rate of 450 gallons per person per day (equivalent to 1,800 gallons per hookup per day), the revised projections indicate that existing supplies of water would not be exceeded within the next 20 years.

(Socioeconomics, Centaur Associates, Inc., 1980). The study indicates that with the recently completed Snow Canyon Water Project located northeast of St. George, the following municipal water supply/demand situation would exist by the year 2020."

Comment: The Centaur Associates, Inc. report inaccurately reflects the existing situation in St. George. These sections should be revised to include information submitted by City of St. George and Washington County.

In 1967 the City of St. George developed a system known as the Gunlock System that made available to the area 12 cubic feet per second of water. By 1979, this source and other sources of available water had been completely utilized. Therefore, at least one cubic foot of water per second per year must be developed to meet the requirements of the area municipalities connected into the City of St. George system. The Snow Canyon Development provides 6 c/f/s of water which will be adequate until approximately 1985 when it is planned to have water available from the Warner Valley Project.

Since beginning the Warner Valley Proposal in 1973, all of the water that has been developed is in anticipation that the Warner Valley Reservoir will make water available in 1985. Any other project is merely a stop-gap to meet our needs until that time.

6. Page 5-4, Para. 8. Delete <"Studies by Radian (1980) indicate that emissions

Response 88-11

While it is true that numerical modeling using the Impact model reduced the maximum 24-hour average SO₂ concentration at Paiute by a factor of 40 below CRSTER values, and by a factor of 50 for maximum 3-hour concentrations, these factors are not applicable to maximum concentrations at the Valley of Fire. The main reason that maximum short-term concentrations were reduced so greatly when using Impact was the large distance (about 100 km) between the Harry Allen powerplant and the Paiute Primitive Area, which makes it unlikely that the plume would reach Paiute except on very infrequent occasions. The plume from the Harry Allen powerplant would impact the Valley of Fire much more frequently because the distance is only 25 km. The period modeled using Impact had fairly high wind speeds (5.1 to 7.8 m/s) for the first 5 hours of plume transport, resulting in rapid dispersion. There would in all probability be periods of sustained light winds carrying the plume from the Harry Allen powerplant to the Valley of Fire, thus much less rapid dispersion would occur. Because CRSTER indicated maximum 3-hour average concentrations at the Valley of Fire to be a factor of 5.2 above the Class I increment, and maximum 24-hour concentrations a factor of 3.4 above the Class I increment, there is good reason to believe that the numerical model impact would also predict concentrations in excess of the Class I increment. However, at the request of the State of Nevada, BLM treats the Valley of Fire as a Class II area in the final EIS.

from the Harry Allen power plant could cause violations of Class I standards in Nevada's Valley of Fire State Park, a potential Class I area.">

Comment: The study by Radian was designed to perform increasingly detailed analysis only as required to show whether violations of standards actually would occur. Whenever a simple calculation showed no violation, the procedure was truncated. In the case of Harry Allen impact on Valley of Fire, Radian reported, "When it was learned that the park is no longer being considered for redesignation to PSD Class I, the numerical modeling application was determined to be unnecessary, as the most conservative modeling results are well below the allowable PSD Class II increments." (Radian, 1980, page 32).

Radian's results for Paulton, where the procedures were not truncated, showed that the numerical modeling step reduced the maximum concentration estimate by a factor of forty for the 24-hour average and by a factor of fifty for the 3-hour average. Thus, there is every reason to believe that Radian's estimate for Valley of Fire, if pursued to the Class I level, would have shown no violation.

7. Page S-5, Para. 1. Delete <"The National Park Service...perceivable visibility reductions".>

Comment: The statement should be deleted entirely for reasons stated in detail in comments on Pages 4-17 and 4-19, Figures 4-1 and 4-2. The studies have no scientific basis, the results have been presented in a misleading fashion, and it is therefore inappropriate to include

Response 88-12

BLM agrees that the computer simulation does not have the resolution of a baseline photograph. The final EIS has been expanded to include the baseline photograph, the computer simulation of the photograph, and the computer simulation of potential plume impacts on visibility.

The meteorological conditions when the photograph was taken are likely to be different from those assumed for the visibility simulation. However, the sun angle, which was appropriately simulated would be expected to have a more significant effect on plume blight than the use of different base photographs, as stated in Appendix 12. The plume transport was considered under isothermal conditions, rather than highly stable conditions. It was assumed that under stagnation conditions, the plume could rise to heights above the terrain and then be transported past the terrain to Zion National Park by prevailing geostrophic winds. This case was considered on the basis of similar cases observed near the Four Corners and San Juan powerplants. BLM does not agree that a plant the size of Warner Valley (500 MW) meeting the NSPS would not produce a brown haze. A yellow-brown haze from the Emery powerplant unit 1 (415 MW) which also must comply with the NSPS has been documented. A yellow-brown discoloration has also been observed near the San Juan powerplant, with lower NO_x emissions (300 MW, 0.45 lb/MBtu) than Warner Valley would have.

A discussion of the validation of the model used in this study is given in "Validation of a Simulated Photographic Technique in Visibility Modeling" by Williams, LoYin Chan, and Lewis submitted for presentation at the Canyonlands Visibility Symposium, November 1980. In addition, Appendix 12 has been expanded to show the comparison of a computer simulation of a plume with an actual photograph of the plume.

it in the document. See Appendix 1 "Comments on the Air Quality Aspects of the Proposed Warner Valley Generating Station", by North American Weather Consultants, August, 1980.

- 13 8. Page S-5, Para. 2. Delete entire paragraph starting "Operation of...".

Comment: This paragraph is misleading. The Allen-Warner Valley Project should have equal status with other future industrial growth.

- 14 9. Page S-5, Para. 3. "The pumping of 10,000 acrefeet of groundwater per year from the Navajo Sandstone Formation near Alton, Utah <could> might adversely affect <nearby> certain springs."

Comment: The location of the potentially affected springs should be more clearly defined. Because of the lack of hydrologic connection between the Navajo Sandstone Formation and the overlaying alluvial, Dakota, and Entrada aquifers, no springs fed by these latter formations would be affected by the proposed pumping. Within the lease area all existing springs originate from these upper aquifers. Thus, the nearest springs that could be impacted would be those located in Kanab Creek near Big Lake, a distance of nine miles from the proposed well field.

- 15 10. Page S-5, Para. 4. "According to a biological assessment prepared by BLM, two officially listed endangered plant species...would be adversely affected...."

Comment: There is no statement as to the known or unknown nature and extent of the adverse impacts and possible mitigation.

- 16 11. Page S-5, Para. 5. "Habitat of the officially listed endangered Woundfin

Response 88-13

This paragraph does not imply other industrial projects would be more important than the proposed AWV project. The paragraph merely states that some PSD increments would be consumed, which would affect other potential projects. It is presently EPA's policy to allocate PSD increments on a first-come, first-serve basis.

Response 88-14

Your comment is correct based on existing information. It must be noted, however, that based on distance/drawdown predictions of Cordova (1980) several springs in the Alton, Kanab Creek, and Johnson Wash area would be affected by long-term, high volume pumping as proposed for the coal slurry-line system. Refer to Ground Water Pumping for Coal Slurry section, Alternative 1, Chapter 4, for a discussion of recent studies and simulations.

Response 88-15

Information on adverse effects to two endangered plant species is included in the Wildlife: Species of Concern section of Chapter 4 in the final EIS.

Response 88-16

Refer to Response 86-10 for a discussion of this matter.

Minnow (*Plagopterus argentissimus*) would not be adversely affected by the construction and operation of the proposed Warner Valley water project".

Comment: At the invitation of BLM a study group was put together including representatives of BLM, Utah Division of Wildlife Resources, consultant of U. S. Fish and Wildlife Resources, and the staff and consultants of Vaughn Hansen and Associates.

This study analyzed the habitat of the fish during the dryest year of recorded history (1977). The report refutes the biological opinion of April 3, 1978 and establishes the inadequacy of the opinion to properly assess the Woundfin Minnow question.

The Vaughn Hansen report should be more fully utilized in the preparation of the EIS. The Warner Valley Reservoir Proposal was designed to adequately protect the habitat and, in fact, improve the habitat of the Woundfin Minnow.

- 17 [12. Page S-7, Para. 1. "...the proposed Warner Valley Reservoir project would adversely affect the roundtail chub..."
- Comment: There is no statement indicating the exact nature and extent of this impact and possible mitigation.

- 18 [13. Page S-7, Para. 2. Delete <"BLM in cooperation...would be adversely affected by the proposed project. This property is the Hurricane Canal and Diversion. The Honeymoon Trail...would also be affected.">
- Comment: Specific measures have been taken to prevent any damage to these historic properties. The route of this pipeline was specifically

Response 88-17

According to the BLM biological assessment, the Virgin River roundtail chub requires deep pools which are frequently scoured. With the implementation of Alternative 1, these pools would become filled with sediment, which would greatly reduce their preferred habitat. The flow requirements for the Virgin River roundtail chub have not been well defined, however, the impacts to this species are expected to be similar to those of the woundfin minnow.

Response 88-18

Refer to Response 86-8 for a discussion on the Hurricane Canal and Diversion. The Summary has been revised in the final EIS to indicate that the physical remains of the Honeymoon Trail would not be impacted, but the landscape adjacent to the trail would be scarred.

chosen to prevent disturbance of the trail.

- 19 [14. Page S-7, Para. 5. "...potential modification of the California Desert conservation Area Plan, depending on the final version to be approved by the Secretary of Interior, in regard to the proposed electrical transmission lines;"

- 20 [15. Page S-7, Para. 5. "The 500 kv transmission lines proposed for construction in Southern California <would> may pass through portions of Wilderness Study Areas".

Comment: The potential crossing of Wilderness Study Areas (WSA) depends on final route alignment and choice of alternate. (WSA's may be avoided by the I-15 and Highway 66 alternatives.)

- 21 [16. Page S-7, Para. 6. Delete <"...Which would provide an impetus for future.. ..growth.">

Comment: The water project is a development to fulfill existing water requirements and future water requirements as forecasted due to population growth. No part of the Allen-Warner Valley Energy System is designed or planned to provide any impetus to future growth.

- 22 [17. Page S-9, Para. 1. Delete the paragraph. Add: "Substantial changes to existing lifestyle, tax base and socioeconomic bases of Kane County, Utah would occur as the result of the project developments. The increase in population resulting from the project in Washington County, Utah and Clark

Response 88-19

The Summary of the final EIS reflects information contained in the California Desert Conservation Area Final Environmental Impact Statement and Proposed Plan.

Response 88-20

Each of the western transmission system alternatives with the exception of the I-15 alternative, would pass through Wilderness Study Areas in southern California as presently routed. The Summary is modified in the final EIS to indicate this exception.

Response 88-21

The Summary is changed in the final EIS to reflect your comment.

Response 88-22

Analysis of available information, including that provided by the project proponents, does not indicate that the paragraph cited is in error.

County, Nevada, should have relatively little adverse impact on the communities. However, the increased tax base could be extremely beneficial.

Comment: The justification for this comment is contained in project consultant reports previously submitted by the applicants and Five County Association of Governments of Southern Utah reports which the Bureau participated in preparing.

18. Page S-8, Para. 3. Delete. Add: "Washington County. Since high population growth rates already exist in the developed areas of Washington County and since there is a growing diversity in employment and business activity, this alternative would not generate significant adverse impact on existing trends. The increased tax base could be extremely beneficial."

Comment: The justification for this comment is contained in project consultant reports and Five County Association of Governments of Southern Utah reports, as indicated in the previous comment.

19. Page S-11, Para. 1. "The pumping of 7,800 acrefeet of groundwater per year from the Navajo Sandstone Formation near Alton, Utah could adversely affect nearby springs".

Comment: See previous comment about Page S-5, Para. 3.

20. Page S-11, Para. 3. "Delete the paragraph starting <"BLM ...">

Comment: The pipeline is routed well away from the trail to assure no impact.

21. Page S-12, Para. 4. Delete <"...which would provide an impetus for..growth.">

Response 88-23

There is no indication from the analysis of available information that the paragraph cited is in error.

Response 88-24

Refer to Response 88-14 concerning the effect of ground water pumping on springs.

Response 88-25

The slurryline would be routed 1,500 to 4,000 feet north of where the Honeymoon Trail descends the Hurricane Cliffs. Pipeline construction would scar the landscape adjacent to portions of the Honeymoon Trail, but not harm the physical remains of the trail. The Summary is revised in the final EIS to clarify the impact.

Response 88-26

The Summary is modified in the final EIS to reflect your comment.

Comment: See previous comment about Page S-7, Para. 6.

- 27 22. Page S-14, Para. 2. Delete and add revision suggested above for Page S-9, Para. 3.

Comment: The alternative 250 megawatt power plant discussed in Alternative 3, will not require substantially fewer employees than Alternative 1.

- 28 23. Page S-14, Para. 4.

Comment: It should be noted that approximately 125,000 truck trips would be required annually for this alternative.

- 29 24. Page S-15, Para. 5.

Comment: The estimated displacement of 176 MW of peak energy requirements stated in the draft is inaccurate. It must be noted that the Allen-Warner Valley Energy System is a baseload energy system that must be correlated to baseload needs of the community. Nevada Power Company residential customers have demonstrated a reduction in energy use in excess of 23% over the last 6 1/2 years. Nevada Power Company forecasted requirements have considered the past conservation efforts of its customers and increasing conservation efforts in the future by those same customers. The basis for Alternative 5 within the Nevada Power Company system as cited in the draft is unclear. However, it is understood that all conservation for Nevada Power Company and the City of St. George was derived from the Centaur Associates Report entitled Energy Conservation Alternatives for Allen-Warner Valley Project. Nevada Power and the City of St. George have indicated before that the Centaur Report is

Response 88-27

This concern is addressed in Response 88-22.

Response 88-28

Approximately 40,040 round trips would be required annually under this alternative. For detailed information, refer to the Summary, Coal Transport System section under Alternative 3 in Chapter 2, and the Alton Coal Lease Area section under Land Use, Land Use Plans and Controls section under Alternative 3 in Chapter 4 of the final EIS.

Response 88-29

The analysis of Alternative 5 in the EIS is based on a realistic scenario of energy conservation and the development of alternative (nonconventional) energy sources. The actual amount of electricity that would be saved or displaced would depend on a variety of factors, including the residential/industrial mix of a community and the rate of population increase. The implementation of Alternative 5 would reduce consumption and therefore the need for additional electrical generating capacity.

In the analysis of Alternative 5 for the service areas of NPC and the city of St. George, it was found that these communities could implement a much broader and more comprehensive system of conservation than they are at present.

not correct and therefore should not be used.

25. Page S-15, Para. 6. "The application of this alternative...in 1991".

Comment: The analysis of Alternative 5 which developed the amount of 3,059 MW and 1,108 MW surplus is not detailed in this document. To the extent that the analysis is described, it appears to be based on preliminary estimates of resource potentials provided to BLM through personal communications and draft staff documents of the California regulatory agencies. The entire analysis is inadequate, and should be revised or deleted.

26. Page S-15, Para. 6. "These surpluses...in California service area".

Comment: This statement ignores the significant contribution of cogeneration in the analysis of Alternative 5, as shown in Table 2-15 and 2-16 and should be revised. This cogeneration would likely be largely oil-and gas-fired, and would add to the total of oil-fired capacity.

27. Page S-15, Para. 6. Delete <"The reduction in total...costs to consumers".>

Comment: This statement is unsubstantiated, and is an oversimplification. The means by which the BLM proposes to reduce total energy consumption, (i.e., solar devices and other alternative technologies) are projected to be more expensive to the consumer than traditional generation methods.

28. Page S-15, Para. 1. Add at end of first paragraph the following: "As the details of the alternative source, such as specific type, size and location have not been defined, it has not been possible to estimate the magnitude of

Response 88-30

The analysis of Alternative 5 is revised in the final EIS to incorporate the most recent information supplied by CPUC and CEC. This information is further based on updated resource plans submitted by SCE and PG&E during CPUC proceedings on the AMV project.

Response 88-31

The energy efficiency of cogenerative energy sources is much higher than that of conventional energy sources (direct oil and gas-fired power-plants). Even when these cogeneration systems (bottoming cycling generators) use oil and natural gas, the end result is more energy for less gas and oil, resulting in a net savings or displacement of these fossil fuels over a system of conventional design.

Response 88-32

The initial or capital costs of installing nonconventional energy systems is higher than those of conventional sources, (e.g., cost per consumer or household), but the system is more quickly amortized because of the savings in the cost of energy (i.e., compared to conventional energy costs), resulting in a net savings to the consumer over the long term.

With the price of fossil fuels continually escalating, and in light of the tax credits from both State and Federal governments, the cost of alternative systems, insulation, etc., is more cost-competitive than ever before. For more information see the Existing Legislation and Incentives Favoring Conservation and the Development of Alternative Resources section in Chapter 3 of the final EIS.

Response 88-33

The discussions concerning impacts that would occur with the implementation of Alternative 5 are expanded in Chapter 4 of the final EIS.

the inevitable impacts. Such impacts would, of necessity, occur in air quality and land use as well as in all of the other categories."

Comment: As shown, for example, in the Cumulative Summary Table 2-20, and as discussed in pages 4-147 and 4-148, these factors have not been evaluated.

29. Page S-16, Para. 2. Delete paragraph beginning <"It would be probable...">

Comment: This paragraph is misleading in that it implies that "California Coal" or other alternative energy sources could be made available within the same time frame as AWVES with intensified efforts on the part of utilities. These major energy developments cannot be made available in the same time frame. A substantial increase in oil consumption and reduced reserve margins would occur in those years when "California Coal" or other alternatives are not available to "make up the difference", if AWVES is not constructed.

Response 88-34

The analysis of Alternative 6 is expanded in order to better address the impacts of No Action. Refer to Alternative 5 Chapter 4 of the final EIS.

30. Page S-16, Para. 3. Add: "The impact of this alternative has been estimated only in the narrowest sense, namely that 'no project' means 'no impact'.

However, it is recognized that there may well be significant impacts in other places or in the same place at later times."

Comment: Although the Summary Table 2-20 shows "no impact", impacts, while difficult to analyze, will occur and should be addressed.

Response 88-35

The discussion on the impacts of the No Action Alternative (Alternative 6) is revised in Chapter 4 and in Chapter 2 of the final EIS. The discussion of impacts is expanded for a more accurate representation of what would happen in case the No Action Alternative would be selected.

31. Page S-18, Para. 1. Delete <"Cultural Values. BLM and...of an alternative.">

Comment: Washington County Water Conservancy District consultants have stated many times that the existing remnants of the original Hurricane Diversion Dam would not be destroyed.

Response 88-36

Refer to Response 86-8 for a discussion of this concern.

- 37 [32. Page S-18, Para. 4. Delete paragraph beginning <"Land Use Conflicts with Transmission Lines...">
Comment: The common corridor concept for transmission systems is one which localizes and thereby minimizes environmental impacts. The concept is advocated by the BLM and Forest Service and the Federal Land Policy and Management Act. This is not a "land use conflict".
- 38 [33. Page 1-1.
Comment: The Table should show the "Initial Capacity Entitlement for Edison in Harry Allen as 46%.
- 39 [34. Page 1-2, Para. 2.
Comment: The term "independent verifications" as used here and in Page 1-3, Para. 3 is left undefined, and appears to be used loosely. For the California utilities, this verification appears to consist of a letter and a personal communication with staff of California regulatory commissions. The EIS correctly states that neither commission has made a decision on the need for AWVES, but goes on to conclude that only a portion of the project will be needed by 1990. The California Public Utilities Commission will decide the question of need for the Project in California.
- 40 [35. Page 1-2, Para. 2. "The year 1990...for this date".
Comment: It is explained on page 2-42 of the EIS that 1990 was chosen for St. George and NPC, and 1991 was used for PGandE and SCE.

Response 88-37

Conflicts would arise in the routing of future transmission lines or pipelines because space would not be available within the same or adjacent corridors.

Response 88-38

The table of concern is changed in the final EIS to reflect your comment.

Response 88-39

See the revised discussion of energy needs in the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS, which includes the most recent information provided by CPUC and CEC.

Response 88-40

See the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS. The text is revised to reflect the comment.

36. Page 1-2, Para. 5. Delete subparagraph B.

Comment: The California Energy Commission has no control or jurisdiction which would allow them to dictate to the State of Utah or the State of Nevada the necessity for use of the generation plant site nor do they have any control or jurisdiction over fulfilling the needs of electric utility customers in Southern Utah or Southern Nevada. Such a statement, if made by the California Energy Commission, should certainly not be given credit by an agency of the federal government. We suggest this entire section be revised to assure that California agencies speak only to matters within California.

Further, although Subparagraph B was included in the CEC staff proposal of 4/25/80, the CEC has since directed that this statement and associated discussion be removed from the staff testimony in the CPUC AWVES proceeding, because staff was judged by CEC to be unqualified to evaluate site-specific project impacts. (Testimony of David Marcus, AWVES CPUC proceedings.)

Response 88-41

The Purpose and Need of Proposed Project section in Chapter 1 is revised in the final EIS to reflect your comment.

37. Page 1-3, Para. 1. Delete <"A final determination...preferred alternative".>

Comment: This statement is misleading. It implies that the CEC is required to make a determination on the need for the project. It is the CPUC which has the legal responsibility to make this decision--the CEC will make a recommendation as an intervenor in the CPUC hearings. The CPUC has already ruled (in the AWVES proceeding) that although they will use the CEC forecast to determine the demand for energy, they will not rely on the CEC supply analysis in their determination of need. The CEC role in the CPUC decision is overstated.

Response 88-42

This comment is addressed in Response 88-4 and the revised discussion in the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS. CEC is an intervenor in the CPUC proceedings in the determination of the energy demand of the California utilities.

- 43 38. Page 1-3, Para. 3. Delete <"In Summary...by the year 1990."> Change second sentence to read "A complete evaluation of California's need for power from AWVES must await a decision on the SCE and PGandE's application before the CPUC for a Certificate of Public Convenience and Necessity."
Comment: See comments about Page 1-2, Para. 5.
- 44 39. Page 1-3, Para. 4.
Comment: The referenced letter from the Utah Division of Health should be included in the appendix to the document. We understand the state standard for all uses is 1600 gallons per day per connection.
Including the letter would assist in clarifying the statements made in this paragraph.
- 45 40. Page 1-3, Para. 5.
Comment: See comment about Page 5-4, Para. 5.
- 46 41. Page 1-6, Para. 1. "The applicants believe that the <expense> cost, both financial and environmental of building a railroad...".
Comment: Applicants' evaluation included both financial and environmental considerations. Those evaluations were submitted in the Allen-Warner Valley Energy System Assessment Report.
- 47 42. Page 1-6, Para. 5. Delete <"The impact analyses, however, were not based on a mine plan, and are therefore not complete.">
Comment: The paragraph containing this statement touches on previous impact analyses of development on the Alton Leasehold. This sentence

Response 88-43

See the revised discussion on energy needs in the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS. Input concerning these energy needs is obtained from CPUC (Draft EIR, 1980; Staff Reports, 1980) and CEC (Biennial Report, 1979; Staff Reports, 1980).

Response 88-44

See the revised discussion of water needs in the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS. This section is updated with information provided by the State of Utah Division of Health.

Response 88-45

The Purpose and Need of Proposed Project section of Chapter 1 and table 6 of Appendix 11 have been revised as shown in the final EIS.

Response 88-46

The text has been modified to reflect this concern. Please refer to Chapter 1, Scoping Process.

Response 88-47

To reflect your comment, this sentence is not included in the final EIS.

concludes that these analyses were not based on a mine plan and are therefore not complete. We do not agree with such a conclusion. We find nothing in the National Environmental Policy Act of 1969, nothing in the Council of Environmental Quality Regulations and nothing in the Department of Interior Regulations that require submittal of a mine plan (presumably as contemplated by 30 CFR 211 or 30 CFR 700) as a basis to write a "complete" environmental impact statement. We agree fully that upon submittal the mine plan would be examined to determine how closely it parallels the proposed action of the EIS. If the mine plan is substantially the same the EIS should be found to be adequate for that plan of action.

43. Page 1-8, Para. 1. Delete <"The information to be provided...for the California utilities".>

Comment: The California Environmental Impact Report, which was available July 31, 1980, does provide more information on alternative technologies than the EIS. It presents no conclusions or recommendations, however, and cannot be used as "the" analysis of Alternative 5. Its use should be clarified. Note that the language "will be used in the analysis on Page 2-45, Para. 5 is inconsistent with "will be used as the analysis" as stated on Page 1-8. This difference is significant.

Response 88-48
Refer to Response 88-29 for a discussion of this matter.

44. Page 1-8, Para. 2. Delete <"BLM ... is studying the feasibility of placement of a coal transportation system ... to the Southern Utah coal fields. Should such a system be implemented, the construction of a railroad connecting the

Response 88-49
Your concern is addressed in Response 12-5.

Warner Valley power plant would be more feasible".>

Comment: The mere study of feasibility transportation systems by Federal and State agencies is not a project. Studies have shown that should a feasible railroad route between Southern Utah coal and existing railroad facilities be found it would not pass near the Warner Valley site. Also, industrial studies of alternative systems, including railroad, show that railroad's availability to coal within the Southern Utah area would require a minimum production of 30,000,000 tons annually. Construction of such a facility could not begin prior to the early 1990's. Therefore, railroad transportation could not be available to the Alton Coal field in time for this project.

45. Page 1-8, Para. 5. Delete paragraph beginning <"SCE and PGandE...">

Comment: The power plants proposed by both Southern California Edison and Pacific Gas and Electric are not interrelated but are in addition to the need for the Allen-Warner Valley Energy System. Furthermore, these projects are scheduled for operation after Allen and Warner.

Response 88-50

These proposed energy projects are analyzed further in the revised impact analysis of Alternative 6 (No Action) in Chapter 4 of the final EIS. These projects are considered interrelated to the AWV project as part of the resource plans of these utilities. The projects would represent additional coal-fired capacity which could have an impact on the AWV project.

SPECIFIC COMMENTS - CHAPTER 2

46. Page 2-1, Para. 2. "Projected life would be 40 years, except for the water reservoir project which will have a life of greater than 100 years".

Comment: The anticipated life of the Washington County Water Conservancy District Reservoir is one hundred (100) years plus.

Response 88-51

The text is revised to reflect the comment. See the Applicants' Proposed Action section under Alternative 1 of Chapter 2 in the final EIS.

47. Page 2-2, Table 2-1. Under title "Manpower" delete <days>. Under Input and

Response 88-52

Table 2-1 is revised in the final EIS to reflect your concern.

Output titles "Electricity" change MW to MWH and change 24.6 to 590.4; 25.4 to 847.2; 0.7 to 16.8; 350 to 8,400; and 1,400 to 33,600 respectively. The footnote source should read "Compiled based on information submitted by Nevada Power Company, etc." Add to footnote f: "However, emission estimates are for full-power operation".

48. Page 2-3, Table 2-2.

Comment: The percent of total acreage by land ownership figures for the coal preparation plant do not add up to 100. Should state ownership be 10.0 rather than 0.0?

49. Page 2-6, Figure 2-3. "Layout of Alton Coal Preparation Plant."

Comment: This particular layout is no longer correct. At this time plans do not call for a road on Bald Knoll. The actual layout is currently being updated.

50. Page 2-7, Figure 2-4. "Proposed Coal Preparation Plant, Well Site Locations, and Related Facilities".

Comment: See comment about Page 2-6, Figure 2-3. The well site locations are no longer correct. Current hydrologic studies will determine actual locations.

51. Page 2-21. "Eldorado-Lugo ...(which includes <one> two 220 kv lines, and <two> one 500 kv line)..."

52. Page 2-23, Table 2-5. Footnote source should read: "Calculated from information supplied by Nevada Power Company in 1975 on Alternative 1". Add

Response 88-53

Table 2-2 in the final EIS is corrected to reflect your comment.

Response 88-54

The EIS is based on the most recent available information provided by the applicants. At the time the final EIS was prepared, no new information concerning the proposed coal preparation plant had been received. The impact analysis is therefore based on information that was in hand at the time of printing.

Response 88-55

To reflect your comment, the figure referred to is not included in the final EIS.

Response 88-56

The Electrical Transmission System section of Chapter 2 is changed in the final EIS to reflect this comment.

Response 88-57

Table 2-5 is revised in the final EIS to reflect your comment.

to footnote e: "However, emission estimates are for full-power operation".

Comment: In all discussions of Alternatives 2 through 5, it should be noted that the basis for all data given are from calculations by the Bureau of Land Management based on information provided that agency by Nevada Power Company on Alternative 1.

53. Page 2-24, Table 2-6.

Comment: Land ownership for the I-15 alternate should be: 68 percent public, 2 percent state and 30 percent private.

Response 88-58

Table 2-6 is changed in the final EIS to reflect this comment.

54. Page 2-25, Para. 1. "Coarse wastes from the coal washing operation would be trucked back to mined-out areas for disposal <or> while fine wastes are placed in a 50-acre tailings pond located within the coal preparation plant area (Figure 2-3)".

Comment: The final EIS should contain a clarification of this statement. Coarse wastes from the coal washing operation will be trucked back to mined-out areas for disposal. Fine tailings will be placed in the 50-acre settling pond.

Response 88-59

The text of the final EIS is revised to reflect the comment. See the Coal Preparation Plant section of the description of Alternative 1 in Chapter 2.

55. Page 2-28, Alternative 3.

Comment: The economic and environmental feasibility of providing water for cooling of the half-sized power plants has not been evaluated.

Response 88-60

The analysis in the EIS assumes that cooling water would come from the proposed Warner Valley water project. Because the water project is proposed primarily for culinary and industrial uses, the sale of water for additional uses (i.e., powerplant cooling water) would make the implementation of the water project more economically feasible. The environmental feasibility is discussed in the impact analyses of the Warner Valley water project under Alternative 3 of Chapter 4 in the final EIS.

56. Page 2-29, Table 2-8, footnote g, and Page 2-37, Table 2-12, footnote e. Add "However, emission estimates are for full-power operation."

Comment: The emission values have not been corroborated by BACT determination nor by the Project Participants". Apparently the emissions for this

Response 88-61

We have added "Emission rates are based on maximum operating capacity" to tables 2-8 and 2-12. Because BACT has not been determined for the Harry Allen powerplant, BACT determined for the Warner Valley powerplant was assumed for Harry Allen. Emission rates for southwestern Wyoming coal and central Utah coal were then ratioed using the following data as indicated on page 4-91 of the draft EIS to approximate impacts:

different size, different coal alternative have been estimated using certain unstated and untested assumptions. It is not clear that these are correct, and a preliminary review shows that some of these values are too low.

57. Page 2-30, Table 2-9.

Comment: Change the reference source as indicated for Table 2-1. Also, see comment on Table 2-6.

58. Page 2-31, Para. 1.

Comment: The evaluation of truck haulage discussed in paragraph 1 fails to realize that there would have to be return trips of the trucks. There will be 308 daily truck trips based on the information supplied in the Draft. We also wish to comment that the evaluation of this alternative fails to assess the additional growth, construction, etc., that would be required for the alternative. In so doing it fails to assess the total implications of additional water, steel, fuel oil, energy, etc., required and the economic feasibility of such an alternative.

59. Page 2-35, Para. 4. Delete <"Two air strips (one each...powerplants). and">

Comment: The air strips were mainly designed into Allen-Warner Valley Energy System for the pipeline.

60. Page 2-36, Table 2-11. Change the reference source as previously indicated for Page 2-2, Table 2-1.

	Alton	Central Utah	Southwestern Wyoming
Btu per pound	8,897	12,600	9,827
Percent sulfur	0.86	0.45	0.54
Percent ash	7.19	6.5	7.38

A copy of the report detailing the assumptions and calculations made by BLM appears in the Allen-Warner Valley project air quality files at the BLM Cedar City District Office.

Response 88-62

Table 2-9 is changed in the final EIS to reflect this comment.

Response 88-63

Your concerns are recognized in the revised Alternative 3 impacts analysis of Chapter 4 in the final EIS.

Response 88-64

This statement indicates the location of the airstrips, not the purpose. These locations were specified by the applicants in Allen-Warner Valley Energy System Environmental Assessment, Vol. 2, page 1.2-11 (NPC, 1975).

Response 88-65

Table 2-11 is changed in the final EIS to reflect this comment.

- 66 [61. Page 2-37, Table 2-12. Change the reference source as previously indicated for Page 2-2, Table 2-1. Also, add the comment from Page 2-29, Table 2-8, footnote g.
- Comment: We question the fuel oil requirement column; however, we have no basis to evaluate what is included in the quantities shown.

Response 88-66

In response to your comment, table 2-12 has been changed.

- 67 [62. Page 2-39, Table 2-13. Change the reference source as previously indicated for Page 2-2, Table 2-1. Also, see comment on Page 2-24, Table 2-6.

Response 88-67

Table 2-13 is changed in the final EIS to reflect this comment.

- 68 [63. Page 2-40, Para. 5. Delete <"One air strip...Allen powerplant, and">
- Comment: See comment for Page 2-35, Para. 4.

Response 88-68

This concern is addressed in Response 88-64.

- 69 [64. Page 2-40, Para. 6 Alternative 5.
- Comment: Alternative 5 presents an energy future based on the expanded use of alternate energy resources, end-use solar, conservation and load management. The estimated capacity and energy potentials established in this alternative are unrealistic and not achievable.

Throughout discussions of Alternative 5 there is a complete lack of consideration given to the utility customer's conservation efforts to date. The discussions cover a general litany of items without consideration to area, work done to date, or the feasibility of such items. An example is the discussion of solar technologies, both passive and active systems. The EIS fails to consider extreme costs to the customer of such practices and procedures regardless of the method of financing. To suggest that solar energy would present the greatest potential for near term displacement of electrical demand

again demonstrates a failure to understand that the Energy System is a baseload system. An additional need for baseload generation is the potential increase in solar energy devices. Solar energy devices require that utilities have adequate baseload capacity to provide for backup of such devices.

In addition, the discussion gives no credit to the extensive programs presently underway in the Nevada Power Company area and the St. George area. The utility industry and the participants in this project are working diligently in all areas identified in Alternative 5 and have included such alternatives in their resource plans.

For the California utilities, the BLM has developed Alternative 5 from the review of estimates established in several reports by the California Energy Commission (CEC) and the California Public Utilities Commission (CPUC). Aside from the CEC's 1979 Biennial Report, the documents used for these estimates have not been adopted by these agencies, and, therefore, should not be used by BLM without independent verification.

We also object to the intermingling of statements by the California Energy Commission within the EIS which gives the impression that the Energy Commission has evaluated the needs of customers in Southern Nevada and Southern Utah.

SCE and PGandE do not believe that the development of alternative

Response 88-69

Refer to revised discussion of Alternative 5 in Chapters 2, 3, and 4 of the final EIS and Responses 88-4 and 88-29.

energy sources, end-use solar, conservation and load management can be achieved to the extent projected in Alternative 5. These technologies are already included in resource plans to the extent which is deemed reasonable and prudent. Further, planned reliance on these resources would unnecessarily risk the electric supplies of the future. Furthermore, conservation and load management savings could not be expanded to the limits projected without the implementation of mandatory conservation measures, a step which the CPUC has been reluctant to take. It must be emphasized that implementation of Alternative 5 would require a change in the personal attitudes of PGandE's and SCE's customers and would have a significant impact on the lifestyles of people in their service areas.

65. Page 2-41, Table 2-14. Change the reference source as previously indicated for Page 2-2, Table 2-1.

Response 88-70

Table 2-14 is changed in the final EIS to reflect this comment.

66. Page 2-42, Para. 1. Delete <..."and in the analyses...energy demands".>
Comment: The statement is misleading in that it implies that the CEC analyzed Alternative 5 in the Biennial Report. In fact, the Biennial Report cites the need for out-of-state coal in its supply scenarios, and includes AWVES in this consideration.

Response 88-71

The text is revised in the final EIS to further clarify the use of CEC's 1979 Biennial Report in BLM's development of Alternative 5. See the description of Alternative 5 in Chapter 2.

67. Page 2-42, Para. 4. "New legislation...levels"
Comment: Although this governmental action is said to be critical to the success of Alternative 5, there is no assessment in the EIS of the likelihood of these actions occurring. To properly evaluate the

Response 88-72

The EIS states that a switch in priorities at the individual, local, and State government levels as well as those of the utilities would be needed with the implementation of Alternative 5 in the various service areas. BLM does not attempt to "second guess" the governments of the States and communities or the utilities involved. Such a switch in priorities would depend on the perception of those responsible for the allocation of future energy resources.

uncertainties associated with Alternative 5, this question must be addressed.

68. Page 2-45, Para. 3. "In its Biennial Report...indigenous to California".

Comment: This statement is made, and figures for resource targets used without including the CEC caveats. CEC admits that these levels will not be possible without the full cooperation of government. (Biennial Report, P. 51).

Response 88-73

Response 88-72 contains a discussion concerning this comment.

69. Page 2-45, Para. 4. See comment on Page 1-8, Para. 2.

Response 88-74

Refer to the Scoping Process section of Chapter 1 of the final EIS for a discussion of a railroad alternative.

70. Page 2-45, Para. 5. "The following information..."

Comment: It should be noted that figures used are not based on the Biennial Report. These figures appear to be based on a May 6, 1980 CEC "Committee Order on Submission of Utility Forecasts and Resource Plans" Docket No. 80-BR-3. The Biennial Report does not present "preferred" resources broken down by Utility Service Areas. See other comments on this section.

Response 88-75

The information is based on disaggregations by service areas of the data presented in the Biennial Report of 1979 (personal communication, Darryl Joyner, CEC staff, May 7, 1980).

71. Page 2-46, Para. 3. "Only the realistic..."

Comment: This statement is unsubstantiated. We do not accept that the analysis of Alternative 5 is "realistic". California utilities have a legal mandate to provide reliable service to their customers. In their judgment, it is not prudent or realistic to assume for planning purposes that any alternative other than those already shown in utility resource plans will be available.

Response 88-76

BLM has determined that the components included in Alternative 5 are indeed realistic.

72. Page 2-46, Para. 5.

Comment: The formulation of the "Feasible Alternative Supply Mix" is crucial to the EIS contention that Alternative 5 "would result in a 3,059 MW and 1,108 MW surplus for PGandE and SCE respectively, over and above the capacity needed by the utilities in 1991". It is clear that the formulation of the "Feasible Alternative Energy Sources Mix", the keystone to the EIS analysis of Alternative 5, has simply used the highest numbers for available preferred resources from each of the quoted sources, without listing the qualifiers, specific sources or background of those figures. In addition, any numbers used from the Biennial Report should not be described as "feasible". The use of this term shows a misunderstanding of the report. The CEC describes these resources as "preferred", not feasible, fully realizing the uncertainties involved with their availability. The Biennial Report presents goals and targets, not projects which can be considered certain enough to be included in resource plans. These CEC numbers should therefore not be used to describe an alternative to the AWVES.

Response 88-77

The scenario undertaken in the analysis of Alternative 5 has assumed a priority shift to alternative energy sources and conservation. The alternative analysis does not include site and project specific discussion. Instead, it includes an analysis of those energy sources and methodologies that are available for development.

73. Pages 2-47 and 48, Tables 2-15 and 2-16. The figures presented in Columns 1 and 2 are out-of-date. The most recent figures are presented below. Please note that a 1980-1990 time frame is used for PGandE, while a 1980-1991 time frame is used for SCE.

TABLE 2-15
Electrical Energy From Alternative Sources:
PG&E Service Area*

	1980 Capacity (MW)	Planned Additions 1980-1990 (MW)
Cogeneration	179	1,022
Geothermal	663	1,446
Hydro	5,325	1,571
Wind (installed ^a capacity)	0	82.5
Solar	0	0
Total	6,167	4,121.5

Source:

Based on Supplemental testimony of R. Bruce Williams, Senior Engineer, PG&E, "CPUC Hearings on Certificate of Public Convenience and Necessity" July, 1980.

^aPG&E objects to the consideration of wind as firm capacity at this stage of development.

^{*}If this Table includes SMUD, it should be referenced as doing so.

Response 88-78

The text is revised to reflect the most recent PG&E and SCE resource plans. See the discussion of Alternative Electrical Energy Sources in Alternative 5, Chapter 2 of the final EIS.

TABLE 2-16
Electrical Energy From Alternative Sources:
SCE Service Area

	1979 Capacity (MW)	Planned Additions 1980-1991 (MW)
Cogeneration	128	603
Geothermal	0	500*
Hydro	842	553**
Wind (installed capacity) ^a	0	189
Solar	0	0
Fuel Cells	0	26
Total	970	1,871

Source:

Based on Proponents' Environmental Assessment, SCE and PG&E, 1979 as modified by testimony of S. P. Barrett, Senior Engineer, SCE, "CPUC Hearings for Certificate of Public Convenience and Necessity," July, 1980.

^aInstalled wind capacity. Firm capacity is 1/3 of installed capacity (firm x 3 = installed).

* Includes 330 MW Mexico Geothermal Purchase

**Includes 200 MW Hydro Purchase and 120 MW Dinkey Creek Purchase

Comment: The remaining columns in the Table are not addressed because PG&E and SCE believe these figures are neither reasonable or feasible. See previous comments on this section. Further, the use of sources is confusing. A source should be identified for each number and correct sources provided.

Response 88-79

Your concern is addressed in Response 88-77.

80 74. Page 2-49, Para. 1: "The assessment...through 1980".
Comment: The EIS has based its assessment that a significant portion of the capacity credited to Alternative 5 could be available through direct solar technology on a CEC staff draft report which has not been adopted by the CEC, and is therefore subject to revision.

81 75. Page 2-51, Para. 2. "California law requires...occur".
Comment: A significant portion of Alternative 5 has been based on the availability of energy savings over and above those included in the CEC forecast that are, by definition, not "reasonably likely" to occur. These numbers should not be used to describe an alternative to AWVES.

173 82 76. Page 2-51, Alternative 6.
Comment: The discussion of Alternative 6 does not address the impact on oil consumption which results from the "No Project Alternative". If AWVES is not constructed and no alternative is provided, oil consumption on the participant systems could increase as much as 25 million barrels annually.

83 77. Page 2-54, Para. 2.
Comment: There is no reference to Appendix 4 of the EIS, the applicants' mitigation proposal. This section is deficient in demonstrating all the impacts which would be mitigated or have been mitigated by project design.

Response 88-80

The discussions of Alternative 5 are based on the most recent information available. The CEC publication Decade of the Sun used in the preparation is indeed a staff report, subject to revision. The word "Draft" is included in the References Cited in Text section of the final EIS.

Response 88-81

The statement has been misinterpreted. "Reasonably likely to occur" is further explained by CEC in their 1979 Biennial Report to mean those savings or development of alternative energy sources that would occur without a more progressive, comprehensive policy of accelerating energy conservation and alternative energy sources. Also refer to Response 88-72.

Response 88-82

Refer to the revised discussion of the impacts of No Action in Chapter 4, Alternative 6 of the final EIS. This analysis is expanded to include the impacts on oil consumption.

Response 88-83

There is a reference made to Appendix 4 at the end of the description of Alternative 1: Applicants' Proposed Action in Chapter 2.

78. Page 2-58, Table 2-20. Delete table.

Comment: Table is full of errors and inadequacies such as transmission line losses for the entire transmission system should be no greater than 1 to 1 1/2%; Class I areas will not be violated; Valley of Fire is not a Class I area; Allen Power Plant will not raise potential flood levels or flood damage; population projections are grossly inaccurate; major impacts associated with Alternatives 5 and 6 are not addressed, etc. The table should be deleted.

SPECIFIC COMMENTS - CHAPTER 3

79. Page 3-2, Paleontology.

Comment: The section on paleontology gives the impression that many miles of the transmission line corridors contain abundant fossils. It would be more correct to say that along the referenced sections of transmission line there is a potential for fossils occurring and that the likelihood of encountering them is predominantly low.

80. Page 3-4, Para. 1. "The Las Vegas Air Quality Maintenance Area (AQMA) has been classified as a 'non-attainment' area for particulate matter, carbon <dioxide> monoxide...industrial growth."

81. Page 3-9, Para. 2. "Ground water aquifers in the vicinity of the Alton coalfields include the Quaternary alluvium, and the Navajo, Dakota and Entrada Sandstones. ..."

Comment: As written, this paragraph implies that all four aquifers would be directly affected by mining. This situation is not the case. The

Response 88-84

It is believed that different interpretations of the same words have caused a misapprehension as to line system losses. NPC is correct in assigning 1 to 1.5 percent losses to the major transmission lines themselves, even though by the time the system is balanced and the power is ready to be fed into the network, actual losses may be substantially more. The transformer is a very energy efficient converter (in the range of 98 percent) but in the step-ups and step-downs along the way each transformer exacts its toll. By the time the power produced at the powerplant gets to the neighborhood substation or to the customer's meter, an 8 percent loss is probably a conservative estimate.

The other factors addressed in the comment are qualified in their appropriate sections in the final EIS (i.e., for Class I areas refer to the discussion of Air Quality in Chapter 3 and Alternative 1 in Chapter 4; for flood potential at the Harry Allen powerplant refer to the Water Resources section in Chapter 4 and for population projections see the Socioeconomics sections for Chapters 3 and 4).

The discussion of impacts that could occur with the implementation of Alternative 5 is expanded in Chapter 4. These impacts are also summarized in Chapter 2, Comparative Analysis of Alternatives.

Response 88-85

The Paleontology section in Chapter 3 of the final EIS is revised to indicate that 9 percent (72.8 of the 777 miles) of transmission corridors in the Western Transmission System alternatives are high in paleontological values. Nine percent of the total mileage of the Western Transmission System which contains paleontological values is a small portion of the system.

Response 88-86

The text has been corrected to reflect your comment (Chapter 3, Air Quality). Refer to the Air Quality section in Chapter 3 of the final EIS.

Response 88-87

Your comment is correct. Revised text in the Ground Water in the Vicinity of the Alton Coal Lease Area section of Chapter 3 of the final EIS now indicates that only the shallow aquifers (alluvium, Entrada, and Dakota Sandstones) are hydraulically connected to the coal beds. The Mining in the Alton Coal Lease Area section under Alternative 1 in Chapter 4 indicates that surface mining should only affect these shallow aquifers.

effects of mining on local/regional ground water storage would be limited to the Quarternary alluvium and Dakota and Entrada Sandstones. The Navajo Sandstone is physically separated from these, near-surface aquifers by intervening confining layers (Doelling and Graham, Southwestern Utah Coal Fields; Alton, Kaiparowits Plateau and Kolob-Harmony 1-66, USGS, 1972). This lack of hydrologic connection is particularly important since the Navajo Sandstone is a significant source of water and is tapped for water supply purposes by a number of users to the south of the Alton Leasehold (e.g., Kanab, Utah). The paragraph should be rewritten.

82. Page 3-12, Para. 6. Delete paragraph starting "CP National..."

Comment: A court decision has been handed down in favor of the State Engineer. The date of the court's decision is dated July 20, 1979.

Response 88-88

See the revised discussion of CP National in the Virgin River System section, Water Resources of Chapter 3 in the final EIS. This information is revised to reflect updated information.

83. Page 3-18, Para. 5. "The corridors of the proposed transmission lines and coal slurry pipelines have not been inventoried for occurrence of the threatened or endangered species since the list has only recently been published."

Response 88-89

To assess possible impacts to species of concern, on-ground inventories would be necessary prior to construction once transmission and coal slurry pipeline routes are finalized.

84. Page 3-18, Para. 6. "Three of the newly...<would> may..."

Comment: This discussion assumes that specific surveys have been accomplished. This is not the case.

Response 88-90

The text has been changed to indicate that threatened or endangered plants in the areas may be affected.

85. Page 3-21, Para. 2.

Comment: There is no mention here or elsewhere in the report of the efforts which went into the planning of the pipeline route to avoid possible

Response 88-91

The Cultural Resources section of Chapter 3 in the final EIS indicates that the slurry pipeline corridor (800 to 1,500 feet wide) was surveyed for cultural resources. It is not deemed necessary to indicate the efforts that went into the planning of the pipeline route, only that the route was surveyed for cultural resources.

archaeological sites. The fact that "the exact route was not flagged (and) a corridor ranging from 800 to 1,500 feet wide was inspected" allowed for early identification and avoidance of sites. This fact should be included.

86. Page 3-21, Para. 4 and 5.

Comment: The Draft should be more specific as to what sections of the trails that may be impacted, if any, and the importance of such. We doubt seriously if the "100 to 300 Boy Scouts" follow the segment of the trail over Sand Mountain into Warner Valley.

Response 88-92

Your comments have been noted. The text has been revised to be more specific about what trails may be impacted.

87. Page 3-22, Para. 1. "...the proposed slurry line route <would run through>

will be routed to go around an archaeologically rich...".

Comment: The slurry pipeline was routed around this archaeological area (see Page 2-54, Para. 6). Reference should be made to this fact.

Response 88-93

The Cultural Resources section in Chapter 3 is revised as indicated in the final EIS to correspond with Standard Operating Procedures, Appendix 6.

88. Page 3-23, Para. 3. "Results of the survey for each of the alternatives are:

Interstate 15, <14> 15 sites; Eldorado-Lugo, 17 sites; Victorville-McCullough, <17> 18 sites; Highway 66, <12> 16 sites.

Response 88-94

The Cultural Resources section in Chapter 3 is changed in the final EIS to reflect the comment, except for the Victorville-McCullough alternative where the survey conducted by the University of California at Riverside indicated that 19 archaeological sites were found.

89. Page 3-25, Para. 2. "The proposed slurry line would pass directly through the Coral Pink Sand Dunes State Reserve...."

Comment: Reference should be made here to the fact that the route through the Reserve was the result of a relocation study at the request of the State. (see Page 2-54, Para. 6).

Response 88-95

The rerouting of the coal slurry pipeline in accordance with the reallocation route report prepared by Engineering Management, Inc. (1977) to mitigate impacts on the Coral Pink Sand Dunes State Reserve is indicated under the Standard Operating Procedures, Appendix 6, and the Recreation and Aesthetics section of Chapter 3 is revised in the final EIS to reflect this.

90. Page 3-26, Para. 2. Delete <It would run through 3 miles oflocated in

Southwestern Utah.>

Comment: The sentence is out of place. Also, all wilderness unit identifications need to be updated.

Response 88-96

The sentence referred to has been deleted. Also, the final EIS has been revised to reflect updated information on the wilderness review process.

91. Page 3-27, Para. 3. "The principal use of lands proposed for transmission system routing is <open range.> energy transmission."

Comment: Except for entrance to the power plant sites the transmission lines for Alternative 1 will utilize existing transportation corridors. Therefore, the principal land use is energy transmission and should be noted as such.

Response 88-97

Although these areas may already include transmission lines, their placement does not preclude open range use by livestock. Present land use of these areas proposed for the construction of new or additional lines is principally open range.

92. Pages 3-31 and 3-32.

Comment: Refer to Appendix 2, "Review of the Socioeconomic Component of the Allen-Warner Valley Draft Environmental Impact Statement", Dames & Moore, August 19, 1980.

Response 88-98

The Dames and Moore Appendix mentioned in this comment was reviewed in the preparation of the Socioeconomics components of the final EIS. Revisions made in the final EIS are based on updated and/or corrected baseline and projections data. See the appropriate Socioeconomics sections in Chapters 3 and 4 of the final EIS.

93. Page 3-31, Para. "Population". "...the St. George area communities (which have had higher than average growth rates in the 7 to 10 percent per year range)".

Comment: Refer back to Page 1-4, First Table. The first Table projects population increases in the area ranging from "2.1% in the town of Ivins" to "3.2% in the town of Santa Clara" and showing St. George an annual compound growth rate of "2.2%". Because of the significant role proposed population projections have in the EIS procedure, it is imperative that accurate information is used so that any conclusions reached as a result of the preparation of the EIS will be meaningful.

Response 88-99

Refer to Response 86-1 for a discussion of this concern.

Many years ago in projecting the power and water needs of the City of St. George, the City projected a 7 percent annual compound population increase. This method of projection has proven very accurate.

The City of St. George, in cooperation with seven other cities, retained Fox & Company to do a population survey in connection with Utah House Bill 303. This population projection was available to BLM when the EIS was prepared. That projection prepared for the Utah State Fiscal Legislative analysis indicates that the St. George population as of December 31, 1979, was 14,824.

Before the statement is submitted to the Secretary of the Interior as a decision document, all references to population increases in the Washington County area should be brought to a level of increase not less than 7%. Information to the contrary should be removed from the EIS and all population projections should be updated to that rate of increase.

94. Page 3-35, Para. 1. "The CEC <prepares a similar document (Biennial Report)>...also prepares a load forecast...planning requirements".

Comment: The Biennial Report is not a resource plan but an energy policy report to the Governor and legislature. The CEC does not prepare resource plans. The Biennial Report does, however, form a basis for guiding subsequent CEC decisions.

Response 88-100

The Biennial Report and its disaggregated reports (those used to arrive at final figures for the Biennial Report) indicate the preferred energy resources mix in order to orient future planning for energy allocation in the State.

95. Page 3-36, Table 3-2.

Comment: The projected energy consumption figures shown for the PGandE service area do not correspond to those finally adopted by the CEC and shown in the 1979 Biennial Report. For comparison the adopted figures are:

(kwh x 10⁶)

	Table 3-2	1979 BR
1979	66,918	63,416
1985	69,815	Not Shown
1991	79,184	79,184
2000	91,717	91,717

Also, the Table should note that the figures are "sales" only, and do not include transmission losses. In addition, the figures do not include SMUD. ANVES will supply the PGandE area, which includes SMUD. Consequently, the Table should be revised to include SMUD projections in the PGandE area figures.

Response 88-101

According to information received from CEC and identified as Adopted Baseline for the 1979 Biennial Report, the figure the comment refers to (63,416 kwh x 10⁶) is actually for 1978, not 1979.

96. Page 3-39, Para. 2. Should be changed as follows: "Nevada Power Company has engaged in <a modest> an extensive energy conservation program . . . Other <more active> conservation efforts in which the Company has engaged have been <pilot> load management projects in which a <limited> growing number of <private home> customer air conditioners..."

Comment: Nevada Power has produced the greatest conservation results (as measured by the percentage decrease in use per residential customer since the 1973 oil embargo) of any utility in the contiguous United States.

Response 88-102

BLM has not received information from NPC which supports this comment.

103 [97. Page 3-40-41, Tables 3-4 and 3-5. See comments on Tables 2-15 and 2-16.

98. Page 3-42, "Existing Legislation and Incentives Favoring Conservation and the Development of Alternative Resources".

104 [Comment: If it is appropriate to include this section in Chapter 3 as part of a discussion of "Affected Environment" with regard for energy demand, it is equally appropriate to discuss disincentives for conservation and preferred technologies (e.g., Fuel Use Act barriers to cogeneration development). This section should include such a discussion to be complete.

SPECIFIC COMMENTS - CHAPTER 4

180 [99. Pages 4-2 and 4-3, Climate: Should be changed as follows: "The impacts, if any, of power plant emissions on local and regional climatic patterns is not known. While investigations in the eastern part of the United States tend to support theories that emissions could increase the probability of precipitation in affected areas and could mix with atmospheric moisture to form acid rains and <affecting> affect terrestrial ecosystems, similar investigations in the arid Southwest have not shown such tendencies. <(Geophysical...et al, 1978)>. Preliminary investigations have not been able to correlate atmospheric pH levels to affects on terrestrial ecosystems. EPRI, 1980)."

105 [Comment: The statement applies only to areas with higher humidities and precipitation, such as the Eastern United States. (A more adequate and accurate discussion is given on page 4-5 of the DEIS).

106 [100. Page 4-3, Para. 3. Delete <"Residual scars would be left on the landscape

Response 88-103

The text is revised to reflect the most recent PG&E and SCE resource plans. See the discussion of Alternative Electrical Energy Sources in Alternative 5, Chapter 2 of the final EIS.

Response 88-104

Refer to the discussion of the impacts of Alternative 5 in Chapter 4 of the final EIS concerning this topic.

Response 88-105

The discussion of acid rain is deleted from the Climate section and is more completely discussed in the Air Quality section under Alternative 1 of Chapter 4 in the final EIS.

from the excavation of borrow materials for construction of power plants, the water project, the coal slurry pipeline and electrical transmission lines.">

Comment: The nature, extent and location of these "residual scars" should be described.

101. Page 4-4, Para. 2. "The clearing of vegetation, borrowing, and excavating would result in a loss of soil productivity..."

Comment: Information on the present productivity and loss of soil is contained in Allen-Warner Valley Assessment Report, Volume II, 3.7.4.1 and should be used.

102. Page 4-4, Para. 2. "Accelerated soil erosion..."

Comment: The alleged annual soil loss of 12.8 and 23.8 tons per acre due to erosion in the Mojave Desert and Central Utah respectively seems to be very high. The rate of soil erosion and the period before expected reclamation should be included.

103. Page 4-4, Para. 3. Delete <"In especially arid regions such as the Mojave Desert, affected areas would require up to 100 years to recover to pre-existing vegetation densities, even after reclamation and reseeding.">

Comment: There is no basis for such an estimation. Our experience indicates that in a 7" or 8" per annum rainfall zone, shrub-dominated deserts recover well in less than 20 years.

104. Page 4-4, Para. 4. Delete <"Disturbance to wildlife habitat would range from as little as 16,030 acres under Alternative 4, to as much as 36,981 acres under Alternative 1 for the life of the project."

Response 88-106

Without specific proposals as to the nature, context, and location of borrow areas for the various components, it is impossible to describe in detail the appearance of residual scars, other than stating that they would cause disruptions and alterations to the present topographic character of the areas affected.

Response 88-107

The information contained in the AWV Environmental Assessment (NPC, 1975) was used in the preparation of this statement. Also, soil erosion would be reduced and soil productivity would be later improved, depending upon the pre-existing soil productivity of the areas affected, the extent of soil disruption, and the success of any revegetation/reclamation efforts.

Response 88-108

These estimates are changed to reflect previously published documents. Refer to the revised discussion in the Soils section in Chapter 3 of the final EIS.

Response 88-109

It could take in excess of 100 years for the affected areas in the Mojave Desert to recover because the average annual rate of precipitation in this area is 2 to 6 inches, not 7 or 8 inches per annum.

Comment: The statement is inaccurate. Most of the acreage will be returned to multiple use within one or two years. Also, most of the transmission line and pipeline acreage will be available for continuing use and is included in the area rights-of-way of existing transmission corridors. Alternative 4 does not include any evaluation of alternatives for Warner Valley water and power projects so land use under Alternative 4 cannot be compared to Alternative 1.

105. Page 4-6, Para. 2. "Therefore, the Paiute Primitive Area (and Valley of Fire State Park have) has been considered and treated as a potential Class I area in the air quality and visibility impact analysis. Although the Nevada DEP still considers Valley of Fire State Park to be a potential Class I area, the analyses were performed treating it as a Class II area."

Comment: The argument for this was given previously in discussion of page 8-4. Details are given very clearly by Radian in the reference document.

106. Page 4-10, Emissions Table. The current emissions for Harry Allen Station are:

SO ₂	40.80
Particulate Matter	4.32
NO _x	124.56

Comment: These differences should be reflected throughout the document.

107. Page 4-10, Para. 6. Last sentence should read: "Class I SO₂ increments in the Valley of Fire State Park potential Class I area (would be exceeded by the

Response 88-110

The acreages used in the text were given as a comparison of alternatives. Wildlife habitat would not recover until revegetation efforts would be completed. In the Alton coal lease area, revegetation would require 3 to 5 years; however, in the Mojave desert area, revegetation could require up to 100 years.

Response 88-111

BLM treats the Valley of Fire State Park as a potential Class I area in the draft and as an existing Class II area in the final EIS. For a discussion of modeling for the Valley of Fire State Park, see Response 88-11.

Response 88-112

The emissions used in the air quality analysis in the draft EIS are best estimates considering BACT and NSPS. It is possible that actual achievable emissions may be lower for some pollutants. However, given the uncertainties in actual performance of pollution control equipment, the most reasonable figures are assumed to correspond to BACT or NSPS specifications.

Harry Allen Power Plant> have not been calculated except by crude methods which were adequate for a Class II area. However, by analogy with calculations in the Paiute Primitive Area, it is likely that the Class I increments would not be exceeded."

Comment: The argument for this has been stated previously in connection with Page S-4.

Response 88-113
Refer to Response 88-111 concerning this document.

108. Page 4-11, Table 4-3, and Page 4-75, Table 4-8, last line should read:

"Valley of Fire State Park

Radian	<2.3	<16.6	<130	<0.5	<3.3"

Comment: Argument has been detailed in connection with Page S-4 comments.

Response 88-114
Refer to Response 88-111 for a discussion of this concern.

109. Page 4-11, Table 4-3. This table is incomplete in that it only presents EPA Region VIII and ERT Valley Model calculations for SO₂ at Warner Valley for Stability Class F and a wind speed of 2.5 m/s.

Comment: EPA Region VIII has also undertaken Valley Model modeling for Stability Class E at various wind speeds. For this Stability Class, no Class I or II violations were indicated. (See: letter, EPA VIII to BLM (Cedar City), January 9, 1978; and letter, Don Henderson, EPA VIII, to Warner Valley Power Plant File, February 23, 1978). The 75 or so upper-air soundings conducted by Colorado International Corporation at Warner Valley, during all seasons of the year, showed no occurrences of Stability Class F at plume elevation. These results were confirmed by the on site tracer study conducted by North American Weather Consultants. Such results were to be expected since the occurrence of extremely stable atmospheric conditions (Class F) is limited to the lowest region of the

Response 88-115
There is a great deal of uncertainty in the value of 58 mg/m³ derived for the maximum 3-hour concentration. The concentration was obtained from one data point during a tracer experiment that did not necessarily represent worst-case conditions.

The observed stability was E, which is not the worst-case stability. The tracer was released at the highest point on Sand Mountain. The Valley model predicts highest concentrations on the Hurricane Cliffs east of the Warner Valley site. Therefore, Sand Mountain does not necessarily receive the highest concentration. Calculation results of the Valley model are very sensitive to plume rise and elevation of the receptor. EPA obtained concentrations exceeding Class II standards using the Valley model.

atmosphere immediately above the ground, where large nocturnal radiative heat losses from the ground cool the air next to the ground much more rapidly than the air aloft leading to very strong temperature inversions. At plume elevation, these extreme radiative heat losses are not present and temperature lapse rates during inversion conditions are at most Stability Class E. The upper-air observations by CIC and NAWC revealed this to be true. Table 4-3 for EPA Region VIII and ERT should be revised to indicate SO₂ concentrations under worst-case meteorological conditions (Stability Class E) since Class F situation is rare and occurs less than once per year.

There is not sufficient evidence to conclude that Class I standards would not be violated in Zion National Park. It is true that topography does prevent direct transport of pollutants toward Zion National Park. However, one of the tracer releases shows that pollutants could reach the park by a somewhat indirect route. It is doubtful that in many cases the drainage flows in Warner Valley would be of sufficient depth to contain the plume. Drainage flows seldom are that deep and a return flow above a shallow drainage flow is commonly observed in mountainous areas. The tracer studies indicated mostly E stability. However, in one case, F stability was observed. The studies indicated increased horizontal diffusion due to plume meandering. However, increased vertical diffusion was not always observed. It should be noted that the tracer studies were not performed under the most stable conditions. No vertical diffusion data was available in the one case in which there was air flow toward the park. Rawinsonde observations were cited, which indicated very stable conditions are rare above 1,000 feet. These observations must be interpreted with caution. Rawinsondes measure temperatures through a deeper vertical layer and do not give enough resolution to measure shallow stable layers. Temperature lapse rates do not give a direct measure of atmospheric stability. Furthermore, conditions at Las Vegas or other locations do not give a representative measure of conditions in Warner Valley.

110. Page 4-15, Para. 4. "From telephotometer measurements made from July to November, 1979, (EPA/Environmental Monitoring and Support Laboratory letter, 1980) the <visibility resource> visual range in Zion National Park exceeded 125 kilometers (km) 95 percent of the <time> daylight hours. From three years of continuous visual range measurements undertaken by Stearns-Roger at Warner Valley during 1977, and 1979, using an integrating nephelometer, the mean annual visual range has varied between 122 and 129 km. These latter observations would indicate that a visual range of 125 km would be exceeded roughly only half of the time. Since the telephotometer measurements were only made during the daytime during the warmer months, when visual range would be expected to be its greatest, while the nephelometer observations were taken both day and night during all seasons, these results are congruent."
- Comment: Use of the term visual range measurements is more appropriate.

Additional clarification of the statement is desirable.

Response 88-116

BLM concurs that the term visual range is more appropriate than visibility resource and has amended the text (Chapter 4, Air Quality). Both nephelometers and telephotometers do not directly measure visual range, but take measurements from which visual range is calculated.

117

111. Page 4-15, Para. 4. <NPS> National Park Service has sponsored a study of the potential impacts of the proposed Warner Valley power plant plume on visibility in and around Zion National Park (Williams, 1980). If extremely stable conditions (Stability Class F) occur with wind flowing from the south/southwest at low wind speed, the Park Service has hypothesized that it would be possible that the plume from the power plant may be visible from some points in the park. However, the onsite meteorological observations as well as review of other existing data and theoretical considerations reveal that such a combination of weather conditions cannot occur at Warner Valley. Therefore, it is most unlikely the plume could be visible from the Park.

Comment: Reference North American Weather Consultants report SLAQ-80-4, dated May, 1980, and Appendix 1.

Response 88-117

Extremely stable conditions were not assumed for the study, rather, isothermal conditions were used. These conditions were assumed by Williams on the basis of experience with other analyses made for powerplants in the southwest and Williams feels that it is not unlikely that these conditions could occur at Warner Valley. The concerns related to the conclusions of NAWC are discussed in the Air Quality section in Chapter 4 of the final EIS.

118

112. Pages 4-17 and 4-19, Figures 4-1 and 4-2. These discussions and two figures should be deleted.

Comment: The Draft mentions the possible visibility impacts on Zion National Park due to the operation of the Warner Valley Power Plant. The photographic simulations within the report, we feel, are quite misleading.

A printed computer simulation is a very hazy image and certainly does not reflect a true image. The resolution of the television monitor used for the computer simulations does not have the resolution of a modern photographic plate. The comparison of a computer simulation and photograph in the Draft does mislead the reader.

The meteorological conditions existing in the photograph are not indicative of the highly stable conditions used for projection of the plume concentration. This again misleads the reader.

The transport of a plume from Warner Valley to Zion National Park under highly stable conditions, considered in the visibility study, is an impossibility and certainly the trajectory of the plume shown in the Impact Statement is also impossible. To follow that trajectory the plume would have to be elevated at least 1,000 feet above the height it would obtain under the specified conditions and travel through intervening higher terrain in order to enter the vista depicted in the photographs.

Finally, we believe the NO_x concentrations used for plume projection in the photograph were inaccurate. A plant the size of Warner Valley Station, meeting the new source performance standards of the federal government, will not produce the brown haze as shown in the Impact Statement.

On Figure 4-2, the proposed Warner Valley power plant is behind the mountain at the middle right of the photo and simulation.

We have not found any documented validation tests to show agreement between the model used for this simulation and the real world. We therefore doubt its validity and suggest its results be deleted from the final statement.

Response 88-118

Your concerns are addressed in Response 88-12.

119 113. Page 4-41, Para. 5 and 6. "The desert tortoise...could be adversely impacted during construction...due to vehicle/animal collisions and human capture during construction on as many as 12,684 acres of potential habitat (Figure 3-6). The result could be reduction in local populations of the tortoise. ...According to the assessment, impacts to tortoise populations...would not be significant..."

Comment: Delete Para. 5, Page 4-41. The paragraph is inconsistent with paragraph 6. There is no reason for the statement in the first paragraph. Not only are lines routed away from critical habitats, the project is committed to construction procedure and design to protect endangered species.

Response 88-119

The text is changed in the final EIS to reflect this comment. See the Coal Slurry Pipeline and Transmission Line sections of Chapter 4.

187 120 114. Page 4-43, Para. 3. Typographical error: "840" should be "640" acres.

121 115. Page 4-43, Para. 6. "An estimated 15 of these (archaeological) sites would be adversely impacted by construction activities."

Comment: Of these 15 sites, four sites will not be physically disturbed by construction of the pipeline. The potential impacts to these sites would be due to possible vandalism resulting from increased public access to the areas where these sites are located. The distinction should be made that these sites would be only indirectly impacted. In addition, another archaeological site near Moapa would be avoided as a result of a rerouting of the pipeline through that area (see Page 2-54, Para. 6). There is no mention of the testing program conducted where four of the remaining sites were found to be potentially insignificant due to the lack of subsurface contents.

Response 88-120

The Cultural Resources sections in Chapter 4 have been modified to indicate an average site density of one site per 43 acres.

Furthermore, there is no mention that the proposed project can have a beneficial impact on cultural resources. The project enabled the identification of archaeological sites through systematic investigation and would ensure that endangered sites be studied by qualified archaeologists, their contents preserved and valuable information provided to the scientific community. This information should be provided.

116. Page 4-45, Para. 2. Delete <"Construction and operation of the slurry line would impact the Honeymoon Trail...">

Comment: The pipeline would not physically disturb this trail. The line was routed well away from the physical remains of the trail to protect the trail.

117. Page 4-45, Para. 3. Delete paragraph starting <"Because the Honeymoon Trail...">

Comment: Because the Honeymoon Trail is a National Historic Monument, the Trail cannot be maintained and therefore would be a safety hazard. Thus, for workers's safety, use of the Trail will be prohibited.

118. Page 4-45, Para. 6. Delete <"The proposed right-of-way boundaries of the power plant would place the facility over portions of these historic Trails...">

Comment: The plant site will not be placed over the Honeymoon Trail (see Figure 2-5). The route of the Escalante Trail in the plant site area is in doubt. There is no physical or other evidence of the trail in this area that can be disturbed.

Response 88-121

The "Final Report: Archaeological Reconnaissance Along the Proposed Coal Slurry Pipeline Corridor from Alton, Utah to Dry Lake, Nevada" by D.D. Fowler does not indicate that four of the above mentioned 15 sites would not be physically disturbed by pipeline construction. The Cultural Resources sections of Chapters 3 and 4 have been modified in the final EIS to indicate the routing of the pipeline would be around the Black Dog Cave/Moapa-Muddy Complex.

Response 88-122

Although the physical remains of the trail would be protected by routing the slurryline 1,500 to 4,000 feet above the trail in the Hurricane Cliffs area, the landscape adjacent to the trail would be scarred. The Cultural Resources section in Chapter 4 is modified in the final EIS to indicate an indirect impact on the trail.

Response 88-123

It is assumed that this comment is being submitted to mitigate the impact of construction crews utilizing the Honeymoon Trail as a construction road. This mitigating measure is added to Appendix 4, Applicants' Proposed Design and Operating Procedures, and the Cultural Resources section under Alternative 1 in Chapter 4 is changed as shown in the final EIS.

Response 88-124

This statement is deleted from the Cultural Resources section under Alternative 1 in Chapter 4 of the final EIS, and the text is revised to indicate that the Honeymoon and Temple Trails would be indirectly impacted by the construction and operation of the Warner Valley powerplant. However, the Dominguez-Escalante Trail would be directly impacted by the proposed right-of-way boundaries of the Warner Valley powerplant, and therefore, the text is not revised in this matter in the final EIS.

125 119. Page 4-48, Para. 1. Delete the sentence <"VRM objectives could not be met...">

Comment: In the Beaver Dam section of the mountains, the pipeline was routed on steep terrain at the design of the Bureau of Land Management to miss other critical areas which the Bureau wanted to protect. The "notching and cutting" will be in a location which is not visible to the casual observer. The sentence also implies that the White Cliffs would be notched and cut. This is not correct. The pipeline route along the Upper Kanab Creek area will lie mostly on naturally occurring benches.

Response 88-125

Although the coal slurry pipeline was routed on steep terrain in the Beaver Dam Mountains to bypass other critical areas, the cutting and notching would not meet VRM Class II objectives even though it would not be a location that is readily visible. Concerning the remainder of the comment, refer to the revised Recreation and Aesthetics sections of Chapter 4 in the final EIS, which have been changed to reflect your concern.

681 126 120. Page 4-49, Para. 1. "Otherwise the slurry line would appear to the observer as a linear scar that would disappear with distance."

Comment: Experience indicates that in such areas pipeline routes usually blend into the background landscape after a number of years. A person walking on the ground may not ever recognize that a pipeline is buried there. The statement should note the above and indicate that "scars" will be temporary impacts.

Response 88-126

As stated in the Recreation and Aesthetics section of Chapter 4 in the final EIS, vegetation manipulations for underground pipelines will have lasting effects (Ross, 1979).

127 121. Page 4-48, Para. 2. Delete paragraph starting with <"The present aesthetic character...hiking, sightseeing, etc.">

Comment: There is no factual support for this.

Response 88-127

The Recreation and Aesthetics section in Chapter 4 is revised to reflect this comment in the final EIS.

128 122. Page 4-53, Para. 2. Delete the paragraph starting "Impacts..."

Comment: Transmission corridors will mostly use existing access roads. In areas where transmission lines are not presently located, the

routing of the lines is such that numerous access roads are already available for ORV use. The concept that increased ORV use will be the result of the project is inaccurate. If the Bureau wishes to prevent additional ORV use of public lands this can only be accomplished by restrictions on ORV's.

123. Page 4-58, Para. 3.

Comment: The status of these wilderness units needs to be updated.

124. Page 4-59, Para. 1. Delete references to conflicts in use of land should HR 5584 or the Senate Bill pass.

Comment: The Moapa band of Paiute Indians and Nevada Power Company have both supported this bill and testified before Congress that no conflict would exist.

125. Page 4-64, Table, Type of Employment. Change 922 to 100.

Comment: Under present construction schedules there should be less than 100 construction employees located at Warner Valley during the first six months of 1985.

126. Page 4-69, Para. 1. The first sentence should read "This Alternative would provide for an average output of <1750 MW of electrical power (70 percent of capacity)> 2,000 megawatts of electric capacity and approximately 17 million megawatt hours of energy annually at 80% of capacity factor."

Comment: The statement in the Draft is an inaccurate description of electric power output.

Response 88-128

To reflect your comment, the Recreation and Aesthetics section of Chapter 4 is changed as shown in the final EIS.

Response 88-129

To reflect your comment, the status of the Intensive Wilderness Inventory Units in Utah and Arizona is revised in the final EIS to reflect updates in the wilderness review process.

Response 88-130

As stated in the text, the House Bill (H.R. 5584) contains a provision for a corridor of a width not exceeding 1,500 feet to either side of the existing Navajo-McCullough transmission line. The Senate bill (S. 1135) does not. Should the proposal be implemented, final alignment and the outcome of proceedings on the two bills would determine whether there would be a conflict.

Response 88-131

The exact timing of construction impacts is unknown due to the uncertainty surrounding the project. Therefore, in order to provide for adequate time, it was assumed that the project would be at full force in 1984-1985. As such, the figures in the table are more representative of the anticipated time flow of impacts rather than their exact timing.

Response 88-132

As instructed by NPC during the early preparatory stage of the EIS, the 70-percent of capacity figure was used for analytical purposes. The following statement in the draft EIS is accurate: "Watt: The practical unit of electrical power; the work done in one second when one ampere flows in a circuit under an electromotive force of one volt." (D.C. McNeese and A.L. Hoag, Engineering and Technical Handbook, Prentice-Hall, 1957, p. 33). The average power output of the plants at 70 percent of their capacity of 2,500 MW would be 1,750 MW.

133 127. Page 4-69, Para. 2. "The energy efficiency of the alternative would be 22.1%"
Comment: This number is unsubstantiated. We do not understand the methods used to derive the energy efficiency stated in the draft.

134 128. Pages 4-70, 71, 72 and 73, Table 4-7. Delete Table.
Comment: The Table is full of errors. Emission levels are not the same as text nor are the statements on visibility. The project has performed detailed archaeological studies throughout the project area. This information has been supplied to the Bureau. Routing of transmission lines and pipelines has been extensive to assure protection of such sites.

161 135 129. Page 4-76, Para. 2. Delete the sentence <"The Class I increments in the potential Class I area of the Valley of Fire...">
Comment: Valley of Fire is not a Class I area.

136 130. Page 4-76, Para. 4. Add to end of paragraph: "The Bureau of consultants, however, indicate that the Allen plume interaction with the Las Vegas urban plume will decrease ozone levels in the Las Vegas Basin (Radian, 1980)."

137 131. Page 4-76, Para. 5. Add to end of paragraph: "The Harry Allen Station proposal provides for grain loadings much less than those indicated above and should therefore be of even less impact on the surrounding area."

138 132. Page 4-80, Para. 3. "According to a BLM biological assessment, these impacts <would be significant in Utah where proposed critical habitat> would

Response 88-133

The text indicates that the energy efficiency figures are used to make comparisons between the alternatives. A comparison of the energy efficiency among alternatives is presented in Appendix 19 in the final EIS.

Response 88-134

Alternative 1 analysis in Chapter 4 and table 4-7 in the final EIS are revised to reflect your comment.

Response 88-135

It is true that the Valley of Fire is not a Class I area. The draft EIS refers to it as a potential Class I area only and does not contend that the Valley of Fire is a Class I area. At the request of the State of Nevada, the final EIS considers the Valley of Fire as a Class II area.

Response 88-136

The text is amended to reflect your concerns. Refer to the Ozone section, Air Quality of Chapter 4 in the final EIS.

Response 88-137

Plume opacity would be the same as for Alternative 1.

essentially be avoided."

Comment: The critical habitat of the tortoise is avoided.

Response 88-138

The Wildlife: Species of Concern section of Chapter is revised in the final EIS to reflect your concern.

133. Page 4-81, Para. 2. Delete <"Of the total 238 sites at least 180 would probably be of National caliber".>

Comment: The total of "238" sites applies to the 10,514 acre area in Alternative 1. Again the rule of thumb estimates should be deleted since field work data are available.

Response 88-139

The Cultural Resources section under Alternative 2 of Chapter 4 is revised as shown in the final EIS to reflect your comment.

134. Page 4-81, Para. 6. Should be deleted.

Comment: See comments about Page 4-45, Para. 7.

Response 88-140

This concern is addressed in Response 88-123.

135. Page 4-82, Western Transmission System. "Interstate 15. An estimated <14> 15 sites would be impacted along this alternative route, <10> 8 or more of which may be National Register caliber."

"Eldorado-Lugo. An estimated 17 sites would be impacted, <13> 3 <or more> of which may be of National Register caliber."

"Victorville-McCullough. An estimated <17> 18 sites would be impacted, 11 or more of which may be of National Register caliber."

"Highway 66. An estimated <12> 16 sites would be impacted, <at least 10> 3 or more of which may be of National Register caliber."

Response 88-141

The Cultural Resources section under Alternative 2 of Chapter 4 is revised in the final EIS except for the Victorville-McCullough alternative transmission, for which the University of California at Riverside study indicated that 19 sites were discovered, of which 12 may be of National Register caliber.

136. Page 4-87, Table 4-9. Delete. We believe this Table is misleading due to several inaccuracies. See comment about Table 4-7, Page 4-70.

Response 88-142

Alternative 2 analysis in Chapter 4, and table 4-9 are revised in the final EIS to reflect your concern.

143 [137. Page 4-115, Para. 6. Delete "...<and through the McCullough Pass in Southern Nevada>..."

Comment: The line is represented as traversing the McCullough Pass in Southern Nevada when, in fact, the proposed corridor follows a 138 kv line which is over one mile north of McCullough Pass.

Response 88-143

The area proposed for the routing of the transmission lines is considered part of the McCullough Pass where it would pass through the McCullough Mountains.

144 [138. Page 4-136, Western Transmission System. Refer to comment about same subject on Page 4-82.

Response 88-144

This concern is addressed in Response 88-141.

145 [139. Page 4-138, Para. 4. Same correction as on Page 4-115, applies.

Response 88-145

This concern is addressed in Response 88-141.

146 [140. Page 4-143, Para. 5. It should be noted that the discussion of Nevada Power Company service area in 1990 and 2000 is based on information developed by the Bureau's consultants and not Nevada Power Company. See our comments about Page 3-15, Para. 5.

Response 88-146

The information concerning energy demand (Alternative 5 in Chapter 4) was developed by BLM with input from BLM consultants and from information provided by NPC.

147 [141. Page 4-144, Para. 4. "When those sources are applied..."
Comment: PGandE disagrees with this analysis and believes it needs its full share of the AWVES Project. We have taken this position in the CPUC AWVES proceeding, as set forth in Appendix 3, "Statement of PGandE Company in Support of Full Participation in the Allen-Warner Valley Energy System", April 16, 1980. Also, see comment on Page 8-4, Para. 2.

Response 88-147

Refer to Response 88-4 which addresses this concern of power need.

148 [142. Page 4-145, Para. 8. "...components; some minor shifts and/or expansions..."
Comment: There is no evidence that significant employment shifts due to the

Response 88-148

While there is little data available to quantify the magnitude of such shifts, the analysis that has been performed indicates that such impacts would be significant at least on a local basis.

development of alternate energy sources will occur.

143. Page 4-145, Para. 8. Add to last sentence: ", assuming that sufficient conservation and alternate energy sources can be developed to avoid an electricity shortage."

Comment: The analysis ignores the risk that electricity needs may outpace the utilities' ability to implement many of the relatively untried aspects of this alternative. The impact of an electricity shortage can be significant, as identified in Table 8.1-4 of the Proponents Environmental Assessment.

Response 88-149

Analysis of potential impacts must assume the effectiveness of the measures that define the alternative. Therefore, it is assumed for Alternative 5 that alternative energy sources would be developed. As CEC states in its 1979 draft Biennial Report "(Geothermal, cogeneration, and renewable energy sources) are available now. They should be expanded because of their favorable environmental characteristics, efficiency, more stable costs, and the fact that they are indigenous to California."

144. Page 4-146, Para. 3. Delete the paragraph and replace with: "Without a specific project description, the socioeconomic impacts of this alternative cannot be quantified. A generic discussion follows, quantitatively identifying some of the socioeconomic impacts that could occur. This analysis is speculative, however, and does not provide a valid basis for comparison."

Comment: The socioeconomic impacts identified for Alternative 5 are highly speculative. Such speculation in the absence of a specific project alternative description does not comply with the spirit or letter of NEPA, and should not be given equal weight with the analyses of Alternatives 1-4.

Response 88-150

This concern is addressed in Response 88-148.

145. Page 4-148, Last Paragraph. Delete the paragraph and replace with: "The implementation of this alternative would utilize essentially renewable resources as its energy source. Irreversible or irretrievable commitments of resources would occur in the fabrication of alternate energy technology equipment. Large quantities of copper, aluminum, glass, rubber, plastics and

exotic materials will be required for solar, wind, and geothermal equipment.
Centralized solar and wind installations would consume large areas of land.
Conservation and load management, however, would involve minimal irreversible
costs and help maintain resources in their natural states."

Comment: The environmental impacts of alternate technologies cannot be considered minor. For example, wind turbines may produce visual impacts, and could interfere with bird migrations and downwind microclimates. In addition, the resources required to build and locate these alternate sources are hardly insignificant. The present wording of this paragraph does not give fair recognition of these factors.

Response 88-151

The analysis of impacts should Alternative 5 (Conservation and Alternative Energy Sources) be implemented is expanded in Chapter 4 of the final EIS. This discussion reflects your concerns.

146. Page 4-149, Para. 5. "According ...implemented".

Comment: This statement is a complete misrepresentation of Chapter 10 of the PEA. The applicants have indicated that there is no reasonable alternative to AWVES which is available in the time frame of the proposed projects. Because of project lead-time requirements, alternative coal projects cannot be available prior to 1988 without expedited regulatory review. Thus, the coal alternative to AWVES would result in reduced reserve margins, increased consumption of imported oil and increased costs to the customer during the 1985-1988 period of delay. Combustion turbines were dismissed as an alternative to the project because of the need for baseload generation and the impacts on the consumption of imported oil. Other alternative technologies discussed in Chapter 10 are not currently commercially available and are already included in utility resource plans to the extent that they are expected to be available

Response 88-152

Refer to the revised discussion of Alternative 6 in Chapter 4 of the final EIS. This discussion is expanded to reflect information updated by the participating utilities and CPUC.

in the time frame of AWVES.

153 [147. Page 4-149, Para. 6. "According to SCE and PGandE...and fossil 3 and 4".
Comment: This statement does not represent the policy of PGandE and SCE.
Both utilities have identified AWVES as preferred to these coal projects.

154 [148. Page 4-150, Para. 5. "...efficiency may be a <very practical> feasible
alternative to..."
Comment: The term "very practical" cannot apply to technologies which are
not yet commercially available.

196 [155 [149. Page 4-150, Para. 6.
Comment: The Bureau should include in its discussions the impacts of no power
additions within the Las Vegas area, the impact of major electrical
outages on health care and other public services.

SPECIFIC COMMENTS - APPENDICES

156 [150. Page A 4-2, Para. 2, #1. Under "Soils" Delete Item 1 and its "Effectiveness".
Comment: This statement is not accurate. Only areas where the excavated
subsoil is unsuitable for the establishment of vegetation will
stockpiling of topsoil be practiced. Prior to excavation of the
pipeline ditch, not less than 6 inches of topsoil will be removed.
After backfilling, the topsoil will be used to cover materials which
are unsuitable to support plant life. These areas would be located
by soil testing.

Response 88-153

The discussions of the impacts should Alternative 6 be implemented has been expanded to reflect the views of the participating utilities. See the analysis of Alternative 6 in Chapter 4 of the final EIS.

Response 88-154

The assumptions that shifts in priorities and attitudes would have to occur should Alternative 5 be successfully implemented is explained in the description of Alternative 5 in Chapter 2 of the final EIS.

Response 88-155

See the revised discussion of the Impacts of Major Concern section under Alternative 6 (No Action) in Chapter 4 of the final EIS for a discussion of your concerns.

Response 88-156

This mitigating measure referred to in Appendix 4 was submitted to BLM by the applicants as part of their design features. It is assumed that this comment replaces that measure with the one quoted. The text in Appendix 4 is changed accordingly in the final EIS.

151. Page A 4-3, Vegetation, #2.

Comment: The applicant has provided specific revegetation techniques which would increase the chances of successful revegetation. These include: seed bed preparation, which would give best possible moisture conditions for germination and plant development; fertilizer application on soils where analysis indicates that plant nutrient deficiencies will retard plant development and thus hinder successful revegetation; seed quality, seeding rates, and seeding methods. Each of these is discussed in AWVES Environmental Assessment, Volume II, 4.2-4 to 4.2-7, 1975. This should be noted in this section.

Response 88-157

Again, this mitigating measure in Appendix 4 was submitted to BLM by the applicant as part of their design features. This comment is assumed to replace that mitigating measure with the one quoted in the comment. The text is changed accordingly in the final EIS.

152. Page A 4-4, #6 and Page A 4-5, #7. Virgin and Muddy River Crossings.

Comment: It should be mentioned that both of these construction techniques would be utilized to protect rare and endangered species habitats in these rivers.

Response 88-158

The additional information mentioned in your comment is included in Appendix 4 in the final EIS.

153. Page A-4, Appendix 4, Cultural Resources, Item 2. "A qualified

archaeologist...on-site during initial ground disturbance, except for transmission lines".

Comment: Only areas of probable archaeological significance which have been found during the 100 percent center line walk-through will be surveyed prior to construction.

Response 88-159

This mitigating measure referred to in Appendix 4 was submitted to BLM by the applicants as part of their design features. It is assumed that this comment replaces that measure with the one quoted in the comment, and the text of Appendix 4 of the final EIS is changed accordingly.

154. Page A6-6, Appendix 6, Cultural Resources, Item 3.

Comment: Consultation with Native Americans is indicated only for the

transmission corridors (presumably western only). However, P.L. 95-341 appears to require consultation on all project facilities. In addition, the Memoranda of Understanding for Cultural Resources for Arizona and Utah do not include references to Native American consultations per P.L. 95-341, while California's does. This discrepancy should be explained.

Response 88-160

Native Americans were consulted during the scoping process to identify sites or areas of special religious significance which may be impacted by any project component. Native Americans were also given the opportunity to comment on the draft EIS. Appendix 6 in the final EIS is revised to indicate that native Americans will be consulted for all project components.

155. Page A6-10 and A6-11, Appendix 6, Item 3 and Item 10, Recreation and

Aesthetics.

Comment: These items should be determined on a sight- and component-specific basis.

Response 88-161

Items 3 and 10 are self explanatory as written.

156. Page A 11-1, Para. 4. "In the dry desert areas of the southwest, stable conditions with light winds are most apt to occur in the <fall> winter during cooler times of the day.

Comment: See: Holzworth, G. C., and R. W. Fisher, May, 1979. Climatological Summaries of the Lower Few Kilometers of Rawinsonde Observations, U.S. EPA, Research Triangle Park, N. C.

Response 88-162

There is little data specific to the Warner Valley area. While it is recognized that stable conditions are common in the winter, stagnation conditions are also common during nighttime and early morning in the Warner Valley during autumn.

157. Page A 11-2, Para. 1 and 2, Delete.

Comment: These two paragraphs discuss the lack of meteorological data in the region about Warner Valley. There have been five years of data collected at Warner Valley including on-site upper-air studies and a tracer study. In addition, there is no distinction between Stability Class F (extremely stable, which is used in this modeling) and Stability Class E (stable, which was not used). Holzworth and Fisher, referenced above, show that the data are for Stability

Classes E and F combined (all stable cases) and not for Class F, which was used in the modeling. On-site measurements showed no occurrences of Class F with southwest winds at plume elevation. Thus, the assumptions in the Draft are in error.

158. Page A 11-3, Para. 1. Delete <"...an artificially large stack radius of 8 meters was used to permit sufficient plume rise above nearby terrain obstacles".>

Comment: This section must be deleted as it is physically and technically incorrect. From Briggs (1975) plume rise equations, the buoyancy flux (F) is:

$$F = \frac{g V_s d^2 \Delta T}{4 T_s}$$

Where V_s = exit velocity (m/s)

d = stack exit diameter (m)

The " $V_s d^2$ " term has dimensions of m^3/s , which is a flowrate.

Thus, if the stack radius ($d/2$) were "artificially" increased, the exit velocity (V_s) would have to decrease proportionately so that the product of ($V_s \times d^2$) would remain constant. Therefore, F would remain constant and there would be no increase in plume rise (for given temperature conditions). In any event, on-site observations show that the plume cannot exit Warner Valley under Stability Class F conditions.

159. Appendix 11. Delete.

Comment: See comments about Pages 4-17 and 4-19, and Figures 4-1 and 4-2.

Response 88-163

The data was taken over a 5-year period at a meteorological tower in Warner Valley. Conditions measured give little indication of actual dispersion conditions at effective stack height. Little information is available concerning atmospheric stability. Stability climatology data is not necessarily representative of the most stable conditions that may be found in the region. Furthermore, one tracer study did indicate a vertical dispersion coefficient equivalent to F stability.

Response 88-164

The stack radius was artificially increased to simulate the physical condition of an increased buoyancy flux required to elevate the plume to a height sufficient to clear intervening terrain. There is evidence from studies that this condition occurs near the San Juan powerplant and it is reasonable to assume it could also occur at Warner Valley.

Response 88-165

These comments are discussed in detail in Response 88-118.

166

160. Pages A16-3 through A16-13, Appendix 16. See comment above regarding Page A6-6.

161.

- Appendix 19-1. Delete Appendix 19.

Comment It is impossible to understand the meaning of Appendix 19 or how it is used in the EIS. Examples of items that make the Table impossible to understand are: Input to Warner Valley powerplant given the same in the Table regardless of size of plant. The total energy requirements of the utilities are not available under Alternatives 2, 3, or 4. Therefore, the total energy input for required output is not shown. It appears that the Table did not include energy requirements for rail transport from Central Utah or Southwestern Wyoming. The Table compares energy input with capacity rating.

162.

- Page R-9. "Williams, Michael D. 1980. 'Plume Blight Visibility Modeling with a Simulated Photographic Technique.' Journal of Air Pollution Control Association. Volume 30, number (sic) 131.

Comment: On page 132 of the referenced JAPCA is stated: "Dilution rates are based on gaussian plume dispersion." In the work described in Appendix 11, it is unclear which gaussian model was used; Valley, PTHAX, PDIS, etc.

Response 88-166

Refer to Response 88-160.

Response 88-167

Appendix 19, or its equivalent, is required in the Regulations of the Council of Environmental Quality (Federal Register, November 29, 1978, p. 55978 et seq.). Under Par. 1502.16: "Environmental consequences. This section forms the basis for the comparisons . . . It shall include discussions of: (e) energy requirements and conservation potential of various alternative and mitigation measures."

Appendix 19 was set up in such a manner as to enhance comparability among the various alternatives, which would have vastly different power outputs as well as energy inputs. Consequently, energy inputs are quoted in terms of unit outputs, Btu per MW. The base data from which energy efficiency was developed did not lend itself to a degree of accuracy which would differentiate the improvement in energy efficiencies between a large plant and a small plant; therefore, the total energy input (Btu per MW) appears in the table to be exactly the same. The intent was to provide comparability of alternatives.

In attempting to reduce the table of Appendix 19 to manageable size, the words "and Transportation" were left off Items 10 and 11. This is corrected in the final EIS. Energy costs of transporting central Utah and Wyoming coal were included in the computations.

The hundred pages or so of calculations backing up the table of Appendix 19 have been made available to Bechtel Power Corporation, a contractor for NPC. The calculations are available from BLM Cedar City District Office.

Response 88-168

The most important point in assessing impacts is not which Gaussian model was used; rather the dispersion coefficients used. The Turner E coefficient modified to account for plume meander was used to characterize horizontal dispersion. Tennessee Valley Authority coefficient was used to characterize vertical plume dispersion.

/ab

88 B

COMMENTS ON THE AIR QUALITY ASPECTS
OF THE PROPOSED WARNER VALLEY
GENERATING STATION

ON BEHALF OF THE
ALLEN-WARNER VALLEY ENERGY SYSTEM PARTICIPANTS

BY
NORTH AMERICAN WEATHER CONSULTANTS

AUGUST 1980

APPENDIX 1

COMMENTS ON THE ALLEN-WARNER VALLEY ENERGY SYSTEM
ENVIRONMENTAL IMPACT STATEMENT

Submitted by
NORTH AMERICAN WEATHER CONSULTANTS
Timothy C. Spangler and H. Robert Swart

1. INTRODUCTION

A gas tracer field program was conducted by North American Weather Consultants for the Warner-Valley Generating Station participants during January 1980. The program investigated plume dispersion patterns and potential air quality impacts in the vicinity of the proposed Warner Valley Generating Station in southern Utah. This field program, conducted between January 14 and 27, 1980, consisted of eight (8) separate and distinct tracer releases on six (6) individual days. These tracer tests were accompanied by extensive meteorological measurements of surface winds, winds aloft, and vertical temperature profiles. An extensive discussion of this study was presented by Spangler and Swart (1980) and Spangler (1980).

The tracer materials, sulfur hexafluoride (SF_6) and oil-fog, were released at various altitudes depending upon the upper-level flow. Release altitudes were selected such that plume transport was toward specific terrain features. At the suggestion of the Environmental Protection Agency (EPA), many of the tracer release heights were at altitudes providing the plume with an opportunity to reach Zion National Park unobstructed by terrain, rather than at the generally lower height estimated by plume rise prediction equations.

A-1-1

The period of the study was excellent for the evaluation of stable plume impact on the surrounding terrain. The weather included the most frequently occurring wind directions, the winds were light and surface inversions were present nearly every night. Conditions for direct stable plume transport toward Zion National Park were not encountered, but an evaluation of regional climatology indicated that such conditions are so rare that they may not occur at all in any given year.

The tracer program has provided quantitative plume impact evaluations under various meteorological conditions, with the primary emphasis on stable southeast, stable southwest and nighttime drainage flows.

The tracer study was designed with inputs from the EPA and National Park Service, both of which were invited to send representatives to observe the study. Their representatives were present during the early part of the study and did observe one experimental day.

In the following sections are discussed the expected air quality impacts from the Warner Valley Generating Station with respect to short and long term PSD increments for SO_2 and for visibility impacts. The conclusions presented herein are based upon the field tracer program just described and various modeling efforts.

2. SPECIAL INVESTIGATIONS

Before addressing specifically the Class I and Class II SO_2 impacts, it is prudent here to discuss relevant special investigations. Specific to the arguments presented in later sections are two factors: 1) plume rise estimates and 2) the potential for the occurrence of stable atmospheric conditions.

2.1 Plume Rise Estimates

Proposed plant parameters were examined in an attempt to project probable plume rise values. Plume rise calculations were performed for a total of three stability classifications using the five formulae summarized in Table 2-1. Characteristic lapse rates were chosen for cases ranging from the neutral (D) classification to the moderately stable (F) classification. For the purposes of this study, the stability categories were defined using the Nuclear Regulatory Commission (NRC) criteria. By allowing the ambient wind speed to vary within each stability classification, plume altitude (stack height plus plume rise) versus wind speed were obtained.

Each of the equation in Table 2-1 have certain strengths and weaknesses which must be examined prior to evaluating their respective plume rise estimates. NAWC conducted a two year study comparing measured and calculated plume rise values from a coal-fired power plant in central Utah (Sutherland and Spangler, 1980). A large portion of the data sample was obtained under stable, light wind conditions ($u < 3$ m/sec). For the stable, light wind case, equations (3) and (5) over-predicted the observed plume rise by 200 to 1000 meters. The remaining three equations gave reasonable estimates, but varied in accuracy on a point-by-point comparison. It was

determined that the best approximation to the measured values was obtained by choosing the maximum prediction from the three equations for any particular data point. Generally though, the study results obtained under source and meteorological conditions similar to those expected at the Warner Valley Generating Station indicated that Equation (2) would provide the best estimate of plume rise for modeling applications.

The topography surrounding Warner Valley produces a strong persistent drainage flow each night under appropriate synoptic conditions. This drainage flow is away from Zion National Park and generally toward the southwest to northwest. The drainage flow is expected to exist even underneath a stable southwesterly flow and be 600 m to 800 m deep. If the Warner Valley Generating Station plume is to be transported towards Zion National Park under such conditions, the plume would have to rise a sufficient distance to be out of the low level drainage flow and into the southwest flow aloft. Because the Hurricane Cliffs, just east and northeast of the proposed generating station, rise 600-750 meters above the plant site elevation, it is felt that the plume must rise at least 600 m to effectively reach the southwest gradient flow. The following sub-sections evaluate the probability of this happening.

2.1.1 E Stability Case. The E stability category is used to define a condition of a slightly stable atmosphere. Previous early morning sounding studies conducted by NAWC in southern and southeastern Utah indicate that E stability conditions predominate at plume altitudes (250 m to 700 m AGL). Under E stability the thermodynamic properties of an ambient layer act to retard and restrict the ascent of buoyant air parcels. As the atmosphere becomes more and more stable, the thermodynamic effects will begin to dominate the wind

A-1-5

Table 5-1 Plumerise Equations

1) SIMPLE BRIGGS (1972)	$\Delta h = 2.4 (F/u_s)^{1/3}$	$F = \frac{Q}{\pi} \cdot \left(\text{volume flow rate} \right) \cdot \frac{T_s - T_a}{T_s}$ $s = \frac{Q}{\Delta z}$ $u = \text{mean wind speed}$	Calculates rise thru a single homogeneous layer of uniform characteristics
2) BRIGGS Multi-layer for Bent Over Plumes (1975)	$\Delta h = 2.6 (F/u_s)^{1/3}$	$F = \frac{Q}{\pi} \cdot \left(\text{volume flow rate} \right) \cdot \frac{T_s - T_a}{T_s}$ $s = \frac{Q}{\Delta z}$ $u = \text{mean wind speed}$	Calculates rise thru a series of layers varying in stability and wind speed
3) TVA (1200 m) (Thomas et al., 1970)	$\Delta h = 1.4 c u^{-1} F^{1/3}$	$F = \frac{Q}{\pi} \cdot \left(\text{volume flow rate} \right) \cdot \frac{T_s - T_a}{T_s}$ $c = 1.58 - 41.4 \cdot \frac{\Delta \theta}{\Delta z}$ $u = \text{mean wind speed}$	Calculates rise thru a single homogeneous layer of uniform characteristics over predicts for light wind cases.
4) TVA (500 m) (Thomas et al., 1970)	$\Delta h = \frac{c}{u} F^{1/3} \frac{2}{3} x_{max}$	$F = \frac{Q}{\pi} \cdot \left(\text{volume flow rate} \right) \cdot \frac{T_s - T_a}{T_s}$ $c = 1.58 - 41.4 \cdot \frac{\Delta \theta}{\Delta z}$ $u = \text{mean wind speed}$ $x_{max} = \text{distance from source to level off pt.}$	Calculates rise thru a single homogeneous layer of uniform characteristics.
5) Noses-Carson (1967)	$\Delta h = 181 Q_H^{1/2} u^{-1}$	$Q_H = \text{rate of heat generation needed to produce effluent characteristics from ambient characteristics}$ $u = \text{mean wind speed}$	Calculation ignores stability and is dependent on initial stack parameters and mean wind speed thru depth of calculation.

* General form only. Plume rise based on fluctuations in F due to penetration thru the successive layers. When $F_1 \rightarrow 0$ plume has reached maximum Δh .

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speed factors in the plume rise equations. The estimates from Equation (3) can be disregarded for $u < 3$ m/sec. The data from the other u^{-1} functions must also be disregarded for speeds below 2.0 m/sec because of the substantial over-predictions accompanying such parameterizations at those speeds. The remaining data clearly show that the plume will remain well below the height necessary to reach the height of the transition from drainage flow to gradient flow.

2.1.2 F Stability Case. The F stability category is used to define a moderately stable atmosphere. Moderate to strongly stable conditions occur most frequently near the surface with the percentage of occurrence decreasing with height (AGL) (refer to Section 2.2). Elevated inversions are the predominant cause of F stability cases at plume altitudes and, based on previous field studies, appear to be the most restrictive stability conditions affecting elevated sources. Even the u^{-1} parameterization of plume rise estimates hold the plume well below 600 m for speeds as low as 1.5 m/sec. If the u^{-1} predictions are disregarded below 2 m/sec, it seems apparent that the Warner Valley plume will be unable to rise sufficiently to extend beyond the drainage flow into the gradient flow.

2.1.3 Summary of Plume Rise Estimates. A predictive analysis of plume rise for the Warner Valley Generating Station indicates that the effluent plume is unlikely to penetrate completely through the frequently occurring drainage flow into the gradient flow aloft under stable conditions. Entrainment into the gradient flow is more likely under A, B, C, and D stabilities which would not cause impact in excess of the Class I increments. Under those stability classes plume dispersion

would be significantly enhanced during transport toward Zion National Park.

2.2 Potential for the Occurrence of F and G Stability Conditions.

The tracer releases performed during the field program were conducted under either D (neutral) or E (slightly stable) meteorological conditions. The moderately stable (F) and extremely stable (G) categories were not observed at plume altitudes (500 to 2000 ft AGL). In order to place the meteorological conditions encountered during the field study within the normal framework of conditions characterizing the Warner Valley region, two types of climatological investigations were performed.

To determine how often the more stable categories might be expected to occur, five years of National Weather Service rawinsonde data collected at five intermountain stations were analyzed. The results have been determined for both the 1200 GMT (0500 MST) and 0000 GMT (1700 MST) launch times. The morning data show that the stable categories occurred frequently within the lowest 500 ft (150 m). However, at heights above 1000 ft (300 m), stable conditions were very infrequent. The rawinsonde data for Las Vegas (nearest of the five stations to Warner Valley) yielded frequencies of 0.6 and 0.4 percent at the height intervals of 1000 to 1500 ft and 1500 to 2000 ft, respectively. The occurrence of stable conditions in the afternoon was less likely than in the morning. At Las Vegas, the F or G stability categories occurred only 1.0 percent of the time below 500 ft and only 0.2 percent of the time above that height.

The results from the examination of regional stability based on NWS soundings indicate that moderate to extremely

stable conditions at typical plume heights were an unusual event. The question might arise as to the transferability of these sounding analyses to the Warner Valley area. In order to answer this question, a series of rawinsonde launches, performed at the Warner Valley Plant site during seasonal periods from 1974 to 1975, were examined (Stearns-Rogers; 1974, 1975). The soundings were performed twice daily during five 7-day field trips. At least one 7-day period was scheduled within each of the four seasonal quarters. Specific launch times varied, but the soundings were generally taken around 0800 and 2000 MST (1500 and 0300 GMT, respectively). A total of 69 soundings were collected which were compared on a daily basis with 0000 and 1200 GMT soundings taken by the NWS near Las Vegas (Yucca Flats). The soundings were examined in 500 ft increments above their relative surface elevations. The trends in the occurrence of F and G stability remained the same as those noted in the regional analysis previously presented. In all, only 2 of the 69 soundings from Warner Valley exhibited F or G stability at altitudes approaching typical plume altitudes. Las Vegas soundings exhibited only E stability in the same AGL layers. Five Las Vegas soundings included in the comparison did exhibit moderate to extremely stable layers, however, the corresponding Warner Valley soundings showed either slightly stable (E) or neutral (D) layers.

An examination of the stability frequency distributions versus height derived from the morning soundings for all sources shows a significant and uniform dependence upon height above ground throughout the southwestern mountainous regions. The same analysis also showed that at Las Vegas, the closest rawinsonde station to Warner Valley, the combinations of a very stable case and flow from the southwest quadrant occurred less than one half day per year at 1500 feet above ground level. From

the two climatological studies it seems evident that the occurrence of F or G stability at plume altitude in Warner Valley is extremely infrequent.

3. CLASS II AREA SO₂ IMPACTS

3.1 Three-Hour

Five of eight tracer experiments provided quantitative estimates of three-hour concentration on elevated terrain under stable conditions. The maximum one-hour concentration measured during the tracer study was 140 $\mu\text{g}/\text{m}^3$ on Sand Mountain, northwest of the proposed generating station. When that concentration, which occurred under fumigation conditions, is scaled appropriately, assuming two hours of zero impact, to a three-hour concentration, the value is 47 $\mu\text{g}/\text{m}^3$. The maximum three-hour concentration measured during the tracer study was 58 $\mu\text{g}/\text{m}^3$ on Sand Mountain, 8.5 km from the release point under E stability. Both three-hour concentrations were well below the Class II three-hour PSD increment for SO₂.

The EPA Valley Model with the Briggs (1975) plume rise formulation was used to estimate short-term concentrations of SO₂. Of the thirty selected receptor sites, the maximum estimated three-hour concentration was 315.6 $\mu\text{g}/\text{m}^3$ at the receptor on the Hurricane Cliffs southeast of the proposed generating station. The maximum predicted impact occurred under F stability with a wind speed of 2.5 m/s. Those conditions are generally used for screening sites with the Valley Model.

The results of the tracer study and the Valley Model computations both predict that the Warner Valley Generating Station will not exceed the Class II PSD increment for SO₂ of 512 $\mu\text{g}/\text{m}^3$.

3.2 Twenty-Four Hour

Previous modeling evaluations conducted by others before this study, indicated that the twenty-four hour Class II increment for SO₂ would be exceeded on Sand Mountain. The evaluations used the EPA Valley Model with a plume rise equation (Briggs; 1969, 1972) that under-predicted the actual rise when compared with recent studies described in Section 2.1. When a more recent plume rise equation (Briggs, 1975) is used in the Valley Model, the maximum twenty-four hour concentration under F stability and 2.5 m/sec winds is 50 $\mu\text{g}/\text{m}^3$ on Sand Mountain. This concentration is 55% of the twenty-four hour Class II increment for SO₂.

The maximum three-hour concentration of 58 $\mu\text{g}/\text{m}^3$ on Sand Mountain (discussed in Section 3.1) can be converted to a twenty-four hour concentration by assuming that it lasts for six hours with eighteen hours of zero impact. The resulting concentration is 15 $\mu\text{g}/\text{m}^3$ or 16% of the twenty-four hour PSD increment for SO₂.

From both modeling considerations and the tracer study results, the Warner Valley Generating Station would not be expected to exceed the 24-hour Class II PSD increments for SO₂.

3.3 Annual

The EPA Valley Model incorporating the Briggs (1975) plume rise formula was adapted to provide conservative estimates of annual SO₂ concentrations. The model was run using both the Warner Valley tower data and the Yucca Flats NWS rawinsonde station winds. The plant was assumed to be constantly at

100% load rather than the more common 85% assumption for annual computations.

The maximum predicted Class II annual impact was $6.1 \mu\text{g}/\text{m}^3$ using the Warner Valley Tower winds. Since this is less than 30% of the allowable increment, it is concluded that the Warner Valley Generating Station will not exceed any annual standard or PSD Class II increment for SO_2 .

4. CLASS I AREA SO_2 IMPACTS

Zion National Park is the only PSD Class I area near the proposed generating station that might be affected by the plant's operations. The Class I PSD increment for the 3-hour, 24-hour and annual averages of SO_2 are $25 \mu\text{g}/\text{m}^3$, $5 \mu\text{g}/\text{m}^3$, and $2 \mu\text{g}/\text{m}^3$, respectively.

4.1 Three-Hour Impacts

During the tracer study, one case of stable southwesterly flow was examined. The experiment showed that under E stability, the flow at 2000 feet AGL was forced northward along the Hurricane Cliffs before going eastward toward Zion National Park. The transport took over four hours and the measured one-hour impacts in Zion were $2-3 \mu\text{g}/\text{m}^3$. If it is assumed that this transport would persist for at least three hours the three-hour average would be only 50% of the Class I PSD increment.

4.2 Twenty-Four Hour

To date, predicted impacts in Zion using the Valley Model have indicated that the 24-hour Class I PSD increment would be exceeded under F stability and a 2.5 m/sec wind. These predicted concentrations have been on the order of $8-9 \mu\text{g}/\text{m}^3$. It is felt that impacts of that magnitude are not reasonable for four reasons. First, the Valley Model was applied assuming direct plume transport from the source to the Park, an unreasonable assumption for such complex terrain. Secondly, an evaluation of the predicted plume rise indicates that the plume would not rise sufficiently to exit the frequently occurring drainage flow away from the park and enter the southwesterly flow aloft. Thus, the plume could not be transported toward the Park when

stable conditions are most likely to exist. Thirdly, measurements of plume dispersion during the study showed that plume dispersion was enhanced by the rugged terrain features of the area. Lastly, the Valley Model computations that predicted an exceedance of the Class I twenty-four hour increment for SO_2 assumed an F stability. Data from National Weather Service rawinsonde stations in the western United States showed that F stability is a very rare occurrence above 300 m AGL. Thus, the conclusion is that the maximum twenty-four hour SO_2 concentration in Zion National Park will not exceed the Class I PSD increment.

4.3 Annual

As in the case for estimating annual impacts for the Class II area, the EPA Valley Model incorporating the Briggs (1975) plume rise formula was used to estimate SO_2 impacts in the Class I area. The maximum predicted Class I impact of $.6 \mu\text{g}/\text{m}^3$ in Zion National Park is only 30% of the allowable PSD increment.

5. VISIBILITY

The results of the field study also are relevant to the visibility analysis presented in the Allen-Warner Valley Energy System Environmental Impact Statement. The visibility analysis presented by Williams assumes that the plume is transported directly to Zion National Park with a 2 m/s wind and, stable conditions. In addition, the analysis assumed that the plume will rise to a height sufficient to clear all the upwind terrain during transport to the Class I area. These assumptions are unreasonable for reasons similar to those previously addressed for not using the Valley Model for estimating SO_2 impacts in Zion:

1. The plume was transported directly to Zion National Park when numerous studies have shown that stable light wind cases exhibit extensive plume meandering, especially in complex terrain.
2. A very stable case with southwest flow was assumed to exist several thousand feet above the ground. An analysis of western NWS rawinsonde data from stations such as Salt Lake City and Las Vegas show that such cases occur less than seven times per year on the average at that altitude. The same analysis also showed that at Las Vegas, the closest rawinsonde station to Warner Valley, the combinations of a very stable case and flow from the southwest quadrant occurred less than one half day per year at 1500 feet above ground level.
3. The possibility that the plume under stable conditions could rise to a height which would clear intervening terrain for its transport to Zion National Park is shown to be clearly unreasonable by data gathered in the tracer study. The weather

that causes a stable case to occur, also causes a significant drainage flow. When this drainage flow occurs, the Warner Valley Generating Station plume will be trapped in a flow away from Zion some 1500 to 2000 feet below the altitude necessary for it to be transported toward the Class I area without encountering intervening terrain.

In conclusion, to make an assumption that a stable plume can be transported directly to Zion National Park in the visibility analysis, is to be considering a scenario that may never occur.

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North American Weather Consultants, Nevada Power Company

Response 88B-1

Refer to the Air Quality sections in Chapter 4 of the final EIS for a discussion of your analysis.

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REVIEW OF THE SOCIOECONOMIC COMPONENT OF THE
ALLEN-WARNER VALLEY ENERGY SYSTEM DRAFT ENVIRONMENTAL IMPACT STATEMENT

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August 18, 1980

APPENDIX 2

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REVIEW OF THE SOCIOECONOMIC COMPONENT OF THE ALLEN-WARNER VALLEY
ENERGY SYSTEM DRAFT ENVIRONMENTAL STATEMENT

INTRODUCTION AND APPROACH

This report is a review of the socioeconomic (SE) element of the Allen-Warner Valley Energy System Draft Environmental Impact Statement (DEIS). The SE element of the DEIS was drawn from a report prepared by Centaur Associates, Inc.: Socioeconomic Impacts of the Proposed Allen-Warner Valley Energy System. Dames & Moore examined the Centaur document and other existing documents that describe the study area and various components of the proposed energy system as part of the review.

Comments on the SE element of the DEIS are presented in three parts: general comments, analysis of baseline information, and analysis of methodology. General comments review reference to mitigation measures and the use of data to describe the SE characteristics of the study area. Comments on the baseline information presented in text include the analysis of factual information and the identification of incorrect and misleading conclusions that have been drawn from the data. Comments on the analysis of methodology include review of methodologies and modelling techniques that have been used to generate future SE characteristics described in the impact section of the DEIS.

I. General CommentsA. Reference to Mitigation Measures

The DEIS lacks a succinct description of long-term and short-term impacts that may result from the proposed project. Additionally, related possible mitigation measures for both types of impacts have not been presented in the DEIS. Instead, conclusionary paragraphs have been integrated into the impact sections of text which vaguely describe possible short- and long-term environmental consequences of the proposed and alternative actions. However, there are no separate, comprehensive discussion of

these topics, or mitigation measures, for impacts that may result from the proposed project.

B. Use of Data

The data that have been used to describe the baseline SE characteristics of the three county study area includes only 1978 data which is summarized in Tables 1 through 9 in Appendix 10 of the DEIS. By employing only data from one year in a region's baseline description of SE characteristics, the capabilities or incapacibilities of an area to absorb additional growth cannot be identified. For instance, supposing a community's population was 4,000 in 1970 and the preliminary 1980 census figures show a decline in population of 10%. Presumably, a portion of the housing that accommodated that 10% of the population might be available to accommodate future growth. Conversely, if the same community's population increased between 1970 and 1980 there would presumably be a shortage of housing and future population growth would not easily be accommodated. Therefore, in view of the fact historical data for the study area was not considered as part of the impact analysis, the analysis is misleading and inaccurate.

II. Analysis of Baseline Information

This section of the report is a detailed review and analysis of the baseline data that has been presented in the "setting" portions of the DEIS. It is the understanding of Dames & Moore that the current data presented in the report was the best information available at the time the SE element was prepared. Therefore, Dames & Moore's comments are primarily limited to the presentation of the data in text and identify incorrect and/or misleading conclusions which have been drawn from the data presented. One obvious omission in the presentation of all of the baseline data is the lack of comparisons of local to statewide SE trends to give the reader a perspective of regional growth trends. Comments in this section of the report are presented in four parts: population, employment and income, services, and quality of life.

Dames and Moore, Nevada Power Company, San Francisco, California

Response 88C-1

Mitigations consist of actions which can be adopted and carried out by BLM as opposed to those measures which would essentially be suggested to or originated by other jurisdictions to perform. BLM has very little authority to affect mitigating actions on non-BLM lands (i.e., private lands) where socioeconomic impacts are actually most likely to occur. Impacts have been portrayed as they are projected to occur over the course of the proposed project rather than arbitrarily delineated as "short term" or "long term".

Response 88C-2

To reflect your comment, the figures for baseline data and projections contained in Appendix 11 are revised using Preliminary 1980 Census figures and incorporating historic trends. For text revisions, see the Socioeconomics section of Chapter 3 in the final EIS.

A. Population1. Geographical Subunits

Discussion of population characteristics for the counties comprising the study area: Kane and Washington counties (Utah) and Clark County (Nevada), have been presented in text with reference to undefined geographical subunits within each county. These subunits are identified as the Las Vegas Valley area (Clark County), St. George area (Washington County) and Kane County communities. Since these areas comprise only portions of each county within the study area, without definition the reader has no means for discriminating between data representing countywide and local SE trends. Additionally, data representing the geographic subunits have not been defined in Table 1, Appendix 10: "Baseline Population Projections, 1980-2020," where the reader may expect to look to find which communities within each county comprise the geographic subunits.

Response 88C-3

The text is changed to define geographic areas of concern, as shown in the Southern Utah and Southern Nevada Regions section of Socioeconomics in Chapter 3 of the final EIS.

2. Annual Growth Rates

a. General. Description of annual growth rates are used to report total estimated population increases of a particular area for a given time span, generally at five year intervals. Annual growth rates presented in text, due to the lack of historical data, are representative of only a two year time span between 1978 and 1980. The annual growth rates identified in the report, therefore, are not representative of established county or regional trends.

Response 88C-4

The text is revised to incorporate more historic data in the narrative, as shown in the Population section of Socioeconomics in Chapter 3 of the final EIS.

During this review, it was discovered that the population figures presented in Table 1 (Appendix 10) do not support the annual growth rates presented in text and do not account for seasonal population fluctuations that result from transient student populations and second home residents.

Response 88C-5

The Population section of Socioeconomics in Chapter 3 and Appendix 11 in the final EIS are revised to include base years from which growth rates were derived. These were inadvertently omitted from the draft EIS.

b. Southwestern Utah Region. The text (page 3-31) identifies the annual growth rates of "most communities in the [southwestern Utah] region of 4 to 7 percent per year." Annual growth rates that may be calculated from the figures for the communities shown in Table 1, Appendix 10, are shown below.

<u>County/City</u>	<u>1978</u>	<u>1980</u>	<u>% increase</u>
			<u>1978-1980</u>
Kane	4,086	4,200	+3
Alton	40	55	+4
Glendale	280	173	-4
Kanab	2,330	3,041	+3
Orderville	520	368	-3
Washington	20,600	21,384	+4
Hurricane	1,960	2,023	+3
Ivins	413	442	+7
La Verkin	880	954	+8
Leeds	280	290	+4
St. George	9,930	10,946	+10
Santa Clara	440	726	+65
Toquerville	300	386	+29
Washington	1,510	2,243	+49

The preceding table indicates that the majority of communities in Washington County experienced higher growth rates than were indicated in text (4 to 7 percent). Therefore, the statement in text is inaccurate and are not supported by the baseline data.

It is also important to note that the annual growth rates, as defined in text refer to per year growth rates. In view

Response 88C-6

Refer to Response 88C-5 concerning this comment.

of this it should also be noted that the growth rates for the two year interval shown in the previous table are not representative of the annual per year growth rate of 4 to 7 percent that is presented in text. If the data were consistent the two year growth rates presented in the baseline data would range from 8 to 14 percent-double the annual per year growth rates.

c. Las Vegas Valley Area, Nevada. Population figures for Clark County, Nevada are referred to in text as being those for the Las Vegas Valley area. This reference is problematical since communities in Clark County, Nevada, that comprise the Las Vegas Valley area are not provided in text or in Table 1, Appendix 10. In fact, the estimated 1980 population figure for this area presented in text (608,000) exceeds that presented in the baseline Appendix 10 for Clark County by 134,515 or by 28 percent. Additionally, annual growth rate of 7 to 10 percent per year presented in text is not verified in the support data or footnoted in text to define its source of information. Therefore, the population information for Clark County and the Las Vegas area is possibly inaccurate.

Response 88C-7

Refer to Response 88C-3 for a discussion of this concern.

B. Employment and Income

1. Data Base

The data that is presented to describe the employment and income characteristics of the study area include only 1980 estimates of total employment (by industrial sector) and total earnings that were generated by each industrial sector. Of particular concern is the omission of baseline information breaking out existing basic and non-basic employment figures from which economic impacts can be estimated. Additionally, there is no discussion of regional trade centers, retail sales, family and per capita income included in the employment and

income baseline. Such discussions are important in order that a perspective of the relative importance of particular communities and economic sectors in the study area could be identified and drawn from to estimate the proposed project's impacts. Therefore, the data that is presented in the employment and income section of the DEIS is relatively incomplete and possibly misleading.

2. Presentation of Data

The employment and income data that are presented in text are unidentified as to the year and source and do not represent the support data presented in Table 2, Appendix 10: "Baseline Employment Projections 1980-2020." Evidence of these discrepancies in employment and income figures are described in the following discussions.

a. Employment

1. Kane County, Utah. On page 3-31 of text it is stated that 76 percent of all employment (790 of 1,037 jobs) are in the trade, services and government sectors. The support figures presented for these sectors in Table 2, Appendix 10, are shown below:

Trade:	300
Services:	300
Government:	<u>270</u>
Total	870

Total Employment All Sectors: 1,300

Response 88C-8

While inclusion of such variables is desirable, they are not uniformly available across the entire study area and were therefore not used. The analyses that were used were chosen because of their applicability to the study area and the relative abundance of supporting data.

The 870 figure is 10 percent higher than the 790 figure presented in text and the percentage of total jobs in the three primary sectors of total employment in all sectors is 67 percent (based on the data from the appendix), 9 percent lower than that identified in text.

Response 88C-9

Refer to Response 88C-3 concerning this comment.

ii. Washington County, Utah. The comparison of data presented in text and in Table 2, Appendix 10, are presented below for Washington County. Please note the inconsistencies.

	<u>Text</u>	<u>Table 2</u>
Trade	-	2,303
Services	-	1,178
Government	-	<u>1,601</u>
Total of Above	3,840	5,082
Total All Sectors	5,276	7,284
Percent Total	76	70

Response 88C-10

This comment is discussed in Response 88C-3.

iii. Clark County, Nevada. Consistent with the population section of the SE element, the geographic subunit of Clark County presented in the employment and income section (the Las Vegas Valley area) is referred to in text but only total Clark County employment and income data appears in Appendix 10. Although the geographic subunit (as broken out below) contains the majority of communities in Clark County, presentation of data in the DEIS should be internally consistent with regard to the geographic areas the data represents.

CLARK COUNTY

Las Vegas Valley Area

City of Las Vegas

North Las Vegas

City of Henderson

Unincorporated Valley communities

County Balance

City of Boulder

Other unincorporated communities

The comparison of data presented in text and in Table 2, Appendix 10, are presented below for Clark County. Please note that although the percent totals are the same, there are inconsistencies between the two statistics.

	<u>Text</u>	<u>Table</u>
Trade	-	38,630
Services	-	92,740
Government	-	<u>33,950</u>
Total of Above	117,264	165,320
Total All Sectors	143,110	202,446
Percent Total	81	81

Response 88C-11

Refer to Response 88C-3 for a discussion of this comment.

b. Income. The baseline data presented in text describing the income characteristics of the study area are not identified as to their year and source of information. Table 3, Appendix 10: "Baseline Earnings Projections 1980-2020 (in 1977 Dollars)" presents what may be the support data for the statements in text. A comparison between information presented in text and Appendix 10 is presented below and reveals data inconsistencies.

<u>Kane County Utah</u>	<u>In Million Dollars (rounded)</u>	
	<u>Text</u>	<u>Table</u>
Trade	-	2.0
Services	-	3.0
Government	-	<u>2.1</u>
Total of Above	5.8	7.1
Total All Sectors	8.3	11.5
Percent of Total	70	61

<u>Washington County, Utah</u>		
Trade	-	18.1
Services	-	12.0
Government	-	<u>14.2</u>
Total of Above	31.4	34.3
Total All Sectors	49.4	78.8
Percent of Total	<u>63</u>	<u>44</u>

<u>Clark County, Nevada</u>	<u>In Billion Dollars (rounded)</u>	
	<u>Text</u>	<u>Table</u>
Trade	-	.41
Services	-	1.25
Government	-	<u>.41</u>
Total of Above	1.7	2.1
Total All Sectors	2.3	2.7
Percent of Total	83	77

Response 88C-12

Refer to Response 88C-3 concerning this comment.

C. Services

13 [Public services that have been inventoried in this portion of the SE element include water supply, sewage disposal, educational facilities, health care, and police and fire emergency services. A more complete description of services would include the following items:

- 1) Inventories of the capacities and enrollments of each of the counties' elementary, secondary and advanced educational institutions.
- 2) Inventories of utility services that would support additional growth: electricity, natural gas, and telephone services.

1. Use of Data

Although Tables 4 through 9 in Appendix 10 comprise data that could have been integrated into the SE baseline description of services of the study area, no reference to the support data was used to substantiate claims in text. Claims in text describing service levels as currently experiencing "chronic problems or close to problems levels" need such quantification so that these sorts of statements would not appear unnecessarily subjective or possibly inaccurate. Insofar as the identification of local planning agencies' roles and programs to improve community infrastructures that accommodate population growth is lacking in this section of the DEIS, a clear perspective of the region's growth capabilities is not presented. Discussion of these and the region's various service districts and communities' bonding capacities would be appropriate so that the region's capacity for growth could be accurately assessed in the impact section.

Dames & Moore's communication with local government officials representing the southwestern Utah region revealed that conflicting information existed for recent inventories of the area's public services including water supply, sewage disposal and capacities of educational institutions. The officials representing Kane and Washington counties agreed, however, that the current level of staffing for police and fire emergency services were marginally adequate to support their current populations. Dames & Moore's communication with representatives of Clark County, Nevada, revealed

Response 88C-13

The public services included in the draft EIS were initially determined to be those with the highest potential for significant impact from the project. The collection of services analyzed was not intended to be a full listing, but to be indicative of the level of impact that could be anticipated by affected communities. See also Response 88C-8.

Response 88C-14

The text is revised to reflect your comment in the Services section under Southern Utah and Southern Nevada Regions in Socioeconomics, Chapter 3 of the final EIS.

Response 88C-15

These concerns are addressed. See especially the footnotes to tables 4 through 9 of Appendix 11 in the final EIS.

that the unquantified profile of services for that county was generally a good qualitative summation of the County's existing public services.

16

The conclusionary statement in text (page 3-32) describing services: "most infrastructural services in both regions are presently adequate" conflicts with various statements describing services in individual counties as "inadequate" or having "chronic problems."

Response 88C-16

Refer to Response 88C-14 for a discussion of this concern.

D. Quality of Life

222

17

Statements describing the region's quality of life are vague and unsubstantiated as there is no obvious data base from which these statements could be derived. Reference to "large population migrations into southern Utah" are made in text (page 3-32) but the reasons for these migrations are unidentified other than the region's "rural setting." Whether these migrations of populations are in fact transitory or permanent should be identified so that an accurate description of the area's quality of life could be estimated: Is the area a nice place to visit but not to live? Discussion of per capita income would provide a basis from which the poverty or affluence levels may be evaluated for the three county region.

Response 88C-17

Descriptions of "quality of life" are necessarily vague because of the lack of definitive quality of life criteria and very diverse opinions as to what constitutes quality. Therefore, an accurate description of the area's quality of life cannot be quantified.

III. Analysis of Methodology

This section of the report is presented in two components: 1) the analysis of methodologies that were employed to generate baseline projections depicting estimated growth rates of the no project alternative and 2) the analysis of methodologies that were employed to generate estimated growth rates resultant of the proposed project and alternative developments.

A. Baseline Methodologies

1. Population

The baseline population projections presented in the DEIS Appendices 10 (setting) and 17 (impacts) depict estimated growth rates for the study area without the development of the proposed project. The figures for Clark County, Nevada, presented in the report were generated by the Clark County Department of Comprehensive Planning for the years 1985-2000. The figures for Kane and Washington counties in Utah were developed by the Utah State Planning Coordinator's Office for the years 1985-1990 by utilizing the Utah Process and Economic and Demographic (UPED) model.

Centaur Associates developed baseline projections for the balance of the time frames for each county through the year 2020 by employing linear extrapolation. Since the assumptions for the population projection models employed by the local and state jurisdictions are unknown it is possible that there is an inconsistency between these and the linear extrapolation used by Centaur Associates, Inc.

2. Employment and Income

The economic projections that appear in the baseline for Kane and Washington counties, Utah, were developed by the UPED model as were the population projections, and are therefore internally consistent. However, the economic projections that are presented in the DEIS for Clark County, Nevada, were developed by the Nevada Governor's Office of Planning Coordination which employed Nevada's Demographic and Economic Impact Model, a different source than that for the population projections. It is unclear from the Centaur support document whether the assumptions used by the Clark County Department of Comprehensive Planning in their population projections are compatible with those from which the economic projections were derived.

Response 88C-18

To reflect your comment, the projections are changed to cover the years 1980 to 2000. See the revised tables in Appendixes 11 and 17 in the final EIS.

It can only be assumed that there is a possibility that the two methodologies are incompatible and that the resulting population and economic growth trend estimates are not mutually supportive.

3. Services

Projected demand for public services were developed by using multipliers reflective of established standards of per capita service requirements. Errors in such projections due to usage of inaccurate multipliers appear below as were indicated to Dames & Moore in conversations with local government officials.

a. Water Supply. The household water allocation used in projecting water supply demands does not appear in any of the tables in Appendix 17, although it does appear on page 1-3 of text to be 800 gallons per day per household allocation for domestic water uses. This does not include allocations for irrigation and other uses. According to the Utah Board of Health the correct daily allocation per household is 1600 gallons per day. Therefore, the projected demand for water quoted in the support data in Table 5, Appendix 17: "Alternatives 1 and 2: Water Supply Requirement Impact Projections for Kane County" are incorrect. [It should be noted that tables depicting water supply requirements for Washington and Clark Counties do not appear in Appendix 17. However, a duplicate table (Table 6) exists for Kane County. The numbers that are presented in Table 6, however, are different than those presented in Table 5. Therefore, it is unclear which support data are representative of Kane County or each of the other two counties that comprise the study area].

b. Educational Facilities. The enrollment projections presented in Tables 7 and 14 in Appendix 17: "School District Enrollment and Teacher Impact Projections," for Kane and

Response 88C-19

Since baseline projections involve no manipulations of either demographic model, simply a reporting of results, such potential incompatibility does not exist.

Response 88C-20

The tables in Appendixes 11 and 17 are revised in the final EIS to reflect your comment.

Response 88C-21

The tables in Appendixes 11 and 17 are revised in the final EIS to reflect your comment.

Washington counties, respectively, were based on the assumption that enrollment would remain in the same proportion of the each county's population in the future as it was in 1978. This proportion is not identified in text or in Tables 7 and 14, and it is therefore unclear as to what proportion was used to estimate enrollment impacts.

Generally speaking, however, enrollment projections are based on projected age distribution patterns within a school district or local jurisdiction. This is because an area's population can remain constant whereas the proportion of school-aged people to an area's total population can change. Employment of models based on age distribution trends, then, would have resulted in a much more accurate accounting future school enrollment than proportion of enrollees to total county populations.

Response 88C-22

The problems inherent in projecting "school-aged" proportions of a population are equally inherent in projecting various age classes within that group. As such, projections utilizing various age classes rather than a single aggregated age group would yield only the appearance of greater accuracy, not necessarily greater accuracy itself.

B. Impact Methodologies

This section of the report reviews the models Centaur Associates used to derive population, employment and income projections that describe the SE impacts from the proposed development and its alternatives. Comments in this section are based on the presentation of the methodologies in the Centaur document and their applicability to the study area region. Additionally, this section of the report points out misleading conclusions that have been drawn from the data projections.

1. Population

a. Methodologies. Population projections were derived from a model based on incremental increases of employment attributable to the Allen-Warner Valley project and alternatives by applying employment-to-population ratios derived from baseline projections of population employment from each county. Incremental

population increases that are directly related to particular components of the Allen-Warner Valley project (i.e. the Alton mine) or alternatives were allocated to individual communities using a simple gravity model weighted by estimated driving times to the various project component sites. The assumptions that formed the basis of this gravity model were 1) that construction and operation employees would live the shortest distance from the project sites and 2) that the communities closest to the project sites could accommodate the growth. Clearly, these assumptions are in conflict with the described availability of services to accommodate growth in the SE setting of the DEIS. An example of this discrepancy is provided in the following discussion.

The services of Kane County, Utah, are described in the setting baseline (page 3-31) as:

"to be the least adequate in terms of providing police and fire protection, water supply and sewage disposal. Chronic problems in the county seem to be inadequate fire and police protection. Other deficiencies are inadequate sewage disposal (primarily Kanab, the principal population center of the county) and water supply."

Actual increments of growth attributable to the project as presented in Table 1, Appendix 17 are shown below for the time frame 1980-1985.

	1980	1985 No Project	1985 With Project	Increase	% Increase
Alton	55	49	124	75	61
Glendale	173	157	689	532	77
Kanab	3,041	3,335	4,712	1,377	29
Orderville	368	329	1,011	682	68
Kane County	4,200	4,500	7,166	2,666	4

It is important to note that Kanab, which has been identified in text as having inadequate services to accommodate growth has been allotted 52 percent of the total estimated growth between 1980 and 1985. However, more importantly, 48 percent of the total growth in Kane County for the same time span has been distributed between the county's smallest communities that are less equipped than Kanab to accommodate population growth.

Other inconsistencies with regard to estimated population growth include: 1) the annual growth rates presented in text (page 4-62) are not supported by the data presented in Table 1, Appendix 17 (as summarized above) and 2) the growth rates presented in text on page 4-62, although consistent with the gravity model employed by Centaur to estimate population distribution, are contrary to the distribution patterns presented in the support data from Table 1, Appendix 17. The figures from page 4-62 of DEIS text are shown below:

Alton	31
Glendale	68
Kanab	8
Orderville	41
KANE County	12

The text figures identify Glendale, the community closest to the proposed mine site, as absorbing the majority of total growth between 1980 and 1985 by an annual rate of 68 percent. Clearly, this application of the gravity model used by Centaur reveals its insensitivity to the existing SE conditions of one of the counties in the study area. The results of the model also display inconsistencies between annual growth rate data presented in text and the support data. The 68 percent annual or per year growth rate for Glendale equates to a 340 percent increase in total population between 1980 and 1985, whereas the support data in Appendix 17 indicate a total 77 percent increase for the same time frame.

Only one growth scenario was presented in the DEIS: the worst case condition which assumes uncontrolled growth that would occur in small communities which are located closest to the proposed project sites. Other scenarios such as dispersed growth, concentrated growth and the development of new communities would be appropriate since the application of growth management techniques can aid in the mitigation of growth impacts.

b. Presentation of Data. The projected population impacts attributable to the proposed project are presented in text in terms of annual growth rates. The term "annual" is undefined in text and it is unclear whether the term is used synonymously with that defined as "per year" in the setting baseline. Drawing from the inconsistencies presented previously for Kane County please note that the annual growth rates presented in text between 1980 and 1985 are incompatible with the total population increases derived from the support data in Table 1, Appendix 17, as shown below:

	Percent Annual Growth Rates Between 1980 and 1985 (text)	Percent Total Increase Between 1980 and 1985 (Table 1)
Alton	31	61
Glendale	68	77
Kanab	8	29
Orderville	41	68
Kane County	12	4

Response 88C-23

It is incorrect to assert that the gravity type model utilized to project population distribution impacts assumes that workers "would live the shortest distance from the project sites." Projections are, in fact, made on the basis of a combination of both existing populations in surrounding areas as well as travel times. Also, the model makes no presumption about the capacities of surrounding communities to accommodate growth. Such considerations are made outside the gravity model and form the basis for impact analysis.

Population impact projections are revised to reflect your comment in table 1 of Appendix 17 in the final EIS.

Response 88C-24

The text is revised to reflect your comment. See the Population sections in Socioeconomics, Chapter 4, and table 1 of Appendix 17 in the final EIS.

2. Employment and Income

a. Methodologies. Established incremental ratios of new basic to non-basic employment for each county were used as the multipliers to project the employment and income impacts of the Allen-Warner Valley project in the study area. These multipliers were developed by utilizing historic economic growth trends to identify ratios of incremental basic to non-basic employment. Application of the employment multipliers as described in the Centaur report resulted in a single aggregate figure for indirect employment in each county. This aggregate was then distributed among indirect employment sectors (construction, TCU*, trade, FIRE*, services and government) according to their respective proportional representation in projected baseline employment in each county. From the results of this breakdown in data, multipliers were assigned to each of the three counties which define the ratio of new indirect employment created in a county as a result of a new direct job created in one of the other counties. These are presented in the following table.

	New indirect employment resulting from one new direct job in Kane County	New indirect employment resulting from one new direct job in Washington County	New indirect employment resulting from one new direct job in Clark County
Kane County	.5	-	-
Washington County	.4	.9	-
Clark County	.2	.2	1.1

* TCU = Trade Communications and Utilities
* FIRE = Finance, Insurance and Real Estate

The figures in the preceding table indicate that for every new direct job in Kane County only one half of a new indirect job will be created in the same county. This means that, persons and businesses in Kane County are able to satisfy only a portion of their total retail needs locally, and purchase the remainder in Washington County, or in the case of large ticket items, Clark County. Therefore, more indirect jobs are created outside of Kane County than within it. By contrast for every new direct job in Washington County one whole new indirect job would be created in the same county.

The presumption for this applied methodology is that these trends are static and would remain so if the development of the project were realized. This assumption is unrealistic because, generally speaking, economic growth demands increase the self-sufficiency of small communities such as Kanab. In other words, self sufficiency increases the direct employment opportunities in relatively undeveloped areas and reduces the number of indirect employment opportunities in comparatively developed counties (such as Washington County). Therefore, the suitability of the model used by Centaur to estimate the distribution of indirect employment for the proposed project is questionable.

b. Presentation of Data. One of the most significant omissions in the presentation of employment data for Kane County is the breakdown and summation of the Alton mine and slurry pipeline construction and operation employees. These data are alluded to in a table identifying impacts to incomes and earnings in text but are not succinctly defined. The breakdown of construction and operation employment figures for Washington and Clark counties are presented in text, however, the source of these numbers are not identified in text or the support data in Appendix 17.

3. Services

27 [Description of services impacts is primarily subjective and is based on projected needs described in the baseline SE section of the DEIS. The methodological assumption used in describing impacts is that there are no plans for expanding public services in any of the three counties in the study area. This is clearly unrealistic and misleading in estimating project impacts.

4. Quality of Life

28 [As indicated in the analysis of baseline information section of this review, the descriptions of quality of life in the study area are subjective and unquantified. Since there is no basis from which to estimate impacts on quality of life the subject's impact analysis is vacuous.

5. Tax Base

29 [A short description of impacts on tax bases for the study area counties is presented in the impact section of the DEIS. The source of the data that is presented in these sections for each county is unreferenced and unidentified as to the year it represents, with the exception of the taxing formulae. Without a setting description of this SE characteristic for the three counties the degree of impact cannot accurately be assessed. Additionally, no support data are presented in either of the SE appendices describing tax bases for the three counties.

Response 88C-25

It is not likely that sudden population surges would increase the self sufficiency of remote economics such as Kanab (a high importer of retail goods). The opposite is more likely (especially over the short term) during which self sufficiency would actually be reduced.

Response 88C-26

Refer to the Population Section under Impacts to Kane County in Socio-economics, Alternative 1, Chapter 4, and table 2 of Appendix 17 of the final EIS for a discussion of this comment.

Response 88C-27

The analysis of impacts to services does not presume that there are no plans for expansion and improvement of existing facilities. Local officials and association of government representatives have expended considerable effort along these lines. The analysis projects instances where impacts would occur and where accommodations would have to be made. In those instances where communities do have plans, the analysis serves as a gauge of their adequacy should the particular alternative be implemented.

Response 88C-28

Refer to Response 88C-19 for a discussion of this concern.

Response 88C-29

The text is changed to reflect this comment. See the Tax Base sections of Socioeconomics in Chapter 4 of the final EIS.

IV. List of Contacts

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STATEMENT OF
PACIFIC GAS AND ELECTRIC COMPANY
IN SUPPORT OF FULL PARTICIPATION IN THE
ALLEN-WARNER VALLEY ENERGY SYSTEM

April 16, 1980

STATEMENT OF PACIFIC GAS AND ELECTRIC COMPANY
IN SUPPORT OF FULL PARTICIPATION
IN THE ALLEN-WARNER VALLEY ENERGY SYSTEM

Staff of this Commission, by memorandum dated April 7, 1980, has urged that this Commission recommend to the Public Utilities Commission, in CPUC licensing proceeding No. 59308, that statewide there is only a need for 1609 Mw of the proposed Allen-Warner Valley Energy System Project (AKVES) and that Pacific Gas and Electric Company (PGandE) needs only 524 Mw of that amount by 1991.

In response to request of this Commission, PGandE submits this statement in support of its full participation in the Allen-Warner Valley Energy System Project.

I

THE FLEXIBLE PROCESS SET FORTH IN THE
BIENNIAL REPORT ALLOWS THE COMMISSION TO
TAKE MORE THAN ONE APPROACH TO MEET NEEDED SUPPLY

The 1979 Biennial Report 1/ professes to provide policy makers with a set of options to meet all legitimate electricity requirements and to displace 50 percent of current oil and gas use by utilities (1979 Biennial Report, page 1). What is presented is a preferred supply strategy to meet project growth, which constitutes a target or goal which impliedly may not be fully attained. "The degree to which the actual mix approaches the preferred scenario to meet California's needs depends on the commitment of the state and utilities to alternative energy sources." (page 3). 2/

1/ All references to 1979 Biennial Report unless otherwise stated.

2/ State involvement is defined to include action of the Legislature as well as the executive branch.

II

THE APPROACH TO ACTUAL FINAL SUPPLY MIX
IS TO BE DETERMINED AS EACH
SUPPLY OPPORTUNITY IS PRESENTED

The flexibility of the offered supply strategy is to allow the Commission on a case-by-case basis to consider the uncertainties and availabilities of the resources in an applicant's supply plan:

"We should not overemphasize the importance of the effect of a 1.8 percent annual growth rate as opposed to higher or lower forecasts By 1991, the differences become more significant, but their effect on assessments of need for individual plants will probably be less important than the policy decisions we make about fuel selections, oil displacement and resource limitations. Final decisions about incremental facilities needed will not be made during this regulatory period. These decisions will probably be based on our assessment of demand and other need factors in our next Biennial Report (Pages 41-42, Emphasis added).

Under such strategy, the limitations or unavailabilities of listed, planned resources of a utility can be reviewed repeatedly as each current case is processed, thus taking into account at each decision point the uncertainties of the remainder of a utility supply plan.

It is significant that, contrary to the effect of the Staff analysis, the Commission in its Biennial Report seeks to avoid the specifications of a supply plan for a utility consistent with the

requirements of Section 25323 of the Public Resources Code. ^{3/}
Rather than requiring a rigid supply plan, the report acknowledges the prudence of having in the regulatory process more projects than ultimately may be required. "To add further flexibility and reliability to the system" the report finds the need for 2000 Mw, on a contingent basis, of combustion turbine peaking facilities as a hedge "against the possibility that coal-fired and other facilities outside California may be delayed or cancelled." (pages 49-50).

III

THE BIENNIAL REPORT ACKNOWLEDGES
THAT THE EMPLOYMENT OF PREFERRED RESOURCES IS UNCERTAIN
AND THAT CONVENTIONAL GENERATION WILL BE NEEDED
TO ENSURE DEMAND IS MET

The Commission, realistically, has acknowledged that limitations and uncertainties exist which may preclude preferred alternatives from being employed as originally planned or hoped.

"The timing of a transition to these resources, however, is sufficiently uncertain to warrant a continued though declining reliance on conventional energy resources through the year 2000. In short a mixed strategy is both preferable and necessary." (page 30, Emphasis added).

"During the transition to these options, we must obtain and approve adequate conventional supplies to cover our interim energy needs. Even after diligent conservation efforts, these basic needs will be substantial." (pages 35-37, Emphasis added).

^{3/} The Commission process contemplates review of the status of a utility's supply plan on each supply submittal. Even though professed not to be supply planning by the Staff (R.T. p. 60, l. 2-10), ERCDC proceeding of April 9, 1980), the effect of treating at this point in time all "preferred" resources listed in a utility supply plan as necessarily being available is to specify a supply plan in violation of the prohibition of PRC § 25323. Under the Staff method, either a utility guarantees implementation of a preferred supply plan or it receives no approval of any alternative thereto.

Contrary to the analysis of the Staff, the Biennial Report specifically acknowledges uncertainties regarding cogeneration and geothermal. The Staff at this point in time has assumed that by 1991, all geothermal and all cogeneration listed in PGandE's supply plan will necessarily be in operation. ^{4/}

The Biennial Report, in contrast, points out that, "Cogeneration is currently inhibited by federal fuel use restrictions." (page 45). The uncertainty of the 1002 Mw of cogeneration (1122 Mw including solid waste) that is counted by the Staff as firm is further reinforced by the fact that the contracts for what is contemplated to amount to 24 projects must be negotiated and signed. In addition, for each project, satisfaction of local air quality requirements remains an uncertainty.

With regard to geothermal, which the Staff has assumed to be firm, only 5 Mw of the 655 (corrected) Mw attributed to PGandE's future capacity has an energy source. That 5 Mw is associated with "Wild Well". The source of the hot water geothermal plant, or the sources for Geysers 19 through 24 have yet to be drilled and proven.

In this regard, the Biennial Report has acknowledged the uncertainty of having adequate steam as well as the difficulty in satisfying air quality requirements:

^{4/} Under the provisions of the Biennial Report, contrary to the Staff treatment, it appears that the Commission considers that geothermal and cogeneration may be approved regardless of whether such facilities are necessary to meet demand growth. (page 50). Such policy encourages preferred energy sources, but at the same time, avoids risking an inadequate energy supply.

"The full, long-term potential for geothermal development cannot be estimated with certainty. Expanded development of geothermal steam in The Geysers area depends on the pace of exploration and the success of new hydrogen sulfide control measures which are being tested at new PG&E geothermal facilities." (page 45).

Given the uncertainties of the "preferred" resources which are not even in a licensing phase at this time, it makes sense to determine the need for the major base load facility that is first in time.

IV

APPROVAL OF THE FULL SHARE OF PG&E'S INTEREST
WILL BE NECESSARY TO ACHIEVE 50 PERCENT REDUCTION
IN EQUIVALENT BARRELS OF OIL BY 1991

The Commission has stated as a primary siting criteria the reduction of 50 percent of current oil or oil and gas use by 1991. (pages 1, 2, and 47). 5/

The difficulty of reaching 50 percent reduction of oil and gas is acknowledged to be contingent on many factors one of which depends upon whether federal fuel use restrictions will allow California utilities to use natural gas in power plants as a

5/ The Federal Power Plant and Industrial Fuel Use Act (Public Law 95-620, November 9, 1978) prohibits the use of natural gas as a fuel in existing power plants on or after January 1, 1990 (Section 301(a)), unless an exemption can be obtained. Serious question can be raised whether exemptions could be obtained for 45% of a system, or any portion, where the necessity for such has been created by denial on the basis of need of the authorization to construct a project which would utilize an alternate fuel.

transitional fuel. (page 2). 6/ It also depends upon whether alternative energy resources are developed and whether significant conservation is accomplished. With regard to the latter, the Commission, as pointed out above, considers that even after diligent conservation efforts, interim energy needs will be substantial (pages 35-37).

PG&E has conducted a computer analysis to determine whether the supply plan postulated by the Staff will result in 50 percent reduction in oil burned by 1991 on the PG&E system based on 1979. We found that it does not.

The computer model assumed a supply plan with 427 Mw more than included in the Staff analysis. Average hydro conditions were assumed. Consistent with federal law and a likelihood of the inability to obtain exemptions, 100 percent of the gas use was backed out.

The computer model simulated the operation of the PG&E system for one year based upon economic dispatch with oil-fired units being employed last.

We found that to meet operational requirements in 1991, 25.5 million barrels of oil would be required. Since the 1979 oil burn was 25 million barrels of oil, a 50 percent reduction would be a usage of 12.5 rather than 25.5 million barrels. The difference of

6/ Serious question also exists as to the availability in fact of other exemptions. For example, to qualify for an exemption to burn natural gas based upon future use of synthetic fuels, a utility must show at the least that it will have the synthetic fuel at the end of the term of the temporary exemption. Such an exemption may not exceed 10 years (extended) (Section 311(h)(2)(B)). The availability of such fuel and in quantities necessary is questioned by the Commission itself on page 21, "[E]ven a 'successful' federal program is unlikely to result in major quantities of synthetic fuels before the 1990's."

13 million barrels is equivalent to some 1300 Mw. (Attachment A). That 1300 Mw alone can require a determination that the need for, the entire PGandE share of 1045 Mw be authorized.

V

CONSIDERING ALL FACTORS EFFECTING POTENTIAL SUPPLY
THE COMMISSION HAS DETERMINED A NEED FOR AT LEAST ONE COAL PLANT
FOR NORTHERN CALIFORNIA AND POSSIBLY MORE

After consideration of all factors in the Biennial Report, the uncertainties of all sources of generation, the need to reduce use of gas and oil as a power plant fuel, this Commission determined:

"There is a reasonable need to certify one coal plant site in Northern California and one site in Southern California, with a total capacity of 3,000 megawatts
. . . .

"There is a potential need for one or two additional coal plant sites totalling 2000 to 2,500 additional megawatts of coal capacity." (page 49, see also page 1).

Given this finding, consistent with the Biennial Report, this Commission can easily find that the full share for PGandE of 1045 Mw at this time is needed for Northern California. The Staff, it should be pointed out, has ranked the Allen-Warner Valley Project ahead of Montezuma 1 and 2 because AWVES is first in time. (EPCDC proceeding April 9, 1980, p. 13, ll. 9-14, Staff memorandum, April 7, 1980, p. 8). If such be the case, the approval of the need for 1600 Mw of coal by the Commission would appear to allow transfer of such determination to the entire 1045 Mw PGandE share of the Allen-Warner Valley Project.

VI

A NEED DETERMINATION FOR PGandE OF ONLY 524 MW
OF THE ALLEN-WARNER VALLEY PROJECT WOULD CONSTITUTE AN ABUSE
OF DISCRETION IN THE APPLICATION OF THE ADOPTED FORECAST

As shown above, consistent with the philosophy and supply strategy set forth in the Biennial Report, the Commission at this time can properly determine that there is a need by 1991 for the full share of 1045 Mw for PGandE in the Allen-Warner Valley Project.

Should, however, the Commission take the position that there was no need for PGandE's full share, utilizing the concept of "maximum capacity additions" (page 48), such action would constitute an arbitrary and capricious application of the duly adopted forecast and an abuse of discretion. ^{7/} Irregularities in the hearing procedure and record with regard to such concept, along with discriminatory allocation, would necessitate that PGandE legally be entitled to more than 2000 Mw of capacity additions over and above that specified by the Staff or in the Biennial Report.

CONCLUSION

PGandE requests this Commission to determine and recommend to the Public Utilities Commission in CPUC proceeding No. 59308,

^{7/} An abuse of discretion exists when an agency has not proceeded in the manner required by law, the order or decision is not supported by the findings, or the findings are not supported by the evidence. CCP § 1094.5.

that the entire 1045 Mw share of PGandE in the Allen-Warner Valley Project is needed to ensure adequate energy supplies to Northern California during a just commencing evolutionary movement toward alternative energy sources.

Dated: April 16, 1980.

Respectfully submitted,

CHARLES W. THISSELL
DAN G. LUBBOCK

By *Dan G. Lubbock*
DAN G. LUBBOCK

Attorneys for
PACIFIC GAS AND ELECTRIC COMPANY

ESTIMATED OIL REQUIREMENTS
CEC STAFF HAWVES PLAN

Although PGandE has not modeled the operation of the Staff's HAWVES plan, it has simulated against the CEC adopted forecast, the operation of a resource scenario very similar to that proposed by the staff. A comparison of the two plans is as follows:

Resource	1991 Capacity Levels, MW		
	Simulated Scenario	CEC Staff	Difference
Hydro	5601	Essentially	-
Pumped Storage	1130	same	
Nuclear	3128	"	
Geothermal	2052	2228	+176
Co-generation	1250	1301	+ 51
Coal	800	524	-276
Oil and Gas	6775	6397	-378
Gas Turbines	403	Essentially	-
Wind	82.5	same	
Purchases	1000	"	
Net Difference			-427 Mw

The simulated scenario, which for all practical purposes is the same as the CEC Staff's with respect to baseload sources of energy, produced the following operation characteristics:

1991 Simulated Operation		
Source	Average C.F.	GWH Produced
Hydro	0.54	26643
Nuclear	0.75	20627
Geothermal	0.80	14265
Co-generation	0.85	8207
Coal	0.65	4555
Oil and Gas	0.27	16821*
Gas Turbines	Negl.	24
Pumped Storage		-227
Wind		520
Other		19
Total		91454 = CEC Avg. Year Planning Load

*Based on heat rate of approximately 9500 Btu/kwh, this would require 25.5 million barrels of oil fuel. The 50% reduction objective from 1979 is about 12.5 million barrels. Also, fuel for co-generation has not been included. If this is to be included, oil and gas requirements in 1991 would be substantially greater than the 25 million barrel figure.

UTAH INTERNATIONAL INC.

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20 August 1980

Mr. Morgan Jensen
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Cedar City, Utah 84720

Dear Mr. Jensen:

Attached are Utah International Inc.'s comments on the Allen-Warner Valley Energy System Draft Environmental Impact Statement which relate to the environmental effects associated with mining the Alton Coal Leases.

While we have endeavored to provide clarification and corrections to the Draft EIS, we conclude that consideration of the Alton Coal Project is inappropriate at this time in light of the unsuitability petition now under evaluation by the OSM. Utah International Inc. has already committed to provide a number of site-specific environmental studies to the OSM in August-September, 1980 (see letter of John C. Ferrell to OSM, dated July 2, 1980, copy attached).

We appreciate the opportunity to present our views to the Bureau of Land Management.

Very truly yours,

John C. Ferrell
JOHN C. FERRELL
Project Manager
Alton Coal Development

Attachment

GENERAL COMMENTS

References to the Alton Coal Project

The Draft EIS states on p. 1-6, paragraph 5 that "although scoping meeting responses urged an intensive evaluation of the Alton coal fields, such an evaluation is not included in this analysis" (Emphasis added). The Draft EIS nevertheless proceeds to make numerous comments regarding the impacts of mining the Alton Coal leases. While the environmental issues associated with the mining of the Alton Coal Leases deserve careful evaluation, their consideration in the Draft EIS is inappropriate and based upon insufficient technical data. We base our position on the following arguments.

1 First, the draft correctly describes other proceedings which must address mining-related impacts, namely, the evaluation of the Alton Coal Field unsuitability petition and the subsequent environmental analysis of a mining and reclamation plan on the Alton Coal Leases. The OSM's evaluation of this petition has involved the collection and review of data on reclamation, effects on Bryce Canyon and the effects of mining on long-term productivity. Utah International Inc. has committed to supply a number of site-specific environmental studies to the OSM for their consideration in the petition evaluation (A copy of the letter is attached). If the BLM does not delete references to the Alton Coal Leases in the Draft EIS, it should at a minimum consider this new information.

2 Second, the Draft EIS makes incorrect assumptions regarding mining practices and therefore draws false conclusions regarding the environmental issues. To cite a single example, on p. 4-25, paragraph 2, the draft states that "both surface and subsurface water quality and quantity would be adversely affected on 10,154 acres of the mining permit area."

3 This statement completely ignores sedimentation control practices that must be included in a mine plan conforming to OSM performance standards. The statement is therefore inconsistent with the stated approach of the BLM to consider required environmental standards of performance in assessing impacts.

In summary, analysis of the Alton Coal Project in the Draft EIS is not appropriate in light of other proceedings now underway with the OSM. Furthermore, these analyses are incomplete and do not include voluminous technical data developed by the OSM and Utah International. Environmental analysis of the Alton Coal Project in the Draft EIS should therefore be eliminated.

Terminology

Replace the word fields with leases in the Final EIS. This should be done throughout the document.

The term "Alton Coal Field" (emphasis added) refers to a coal bearing region identified in H. Doelling and R. Graham, South-western Utah Coal Fields: Alton, Kaiporowits Plateau and Kolob - Harmony 1-56 (Utah Geological and Mineralogical Survey Monograph Series No. 1, 1972.) The Alton Coal leases, proposed to be mined by the applicants, comprise only a portion of that coal field.

The distinction is important because a number of environmental issues would be raised in mining this larger region. For example, the area is not leased. Also, the Alton Coal Fields are visible from many viewpoints in Bryce Canyon National Park, while only a portion of the Alton Coal Leases can be seen from a single viewpoint in the Park.

Utah International Inc., San Francisco, California

Response 89-1

Because the proposed Alton coal mine is an integral part of the AWV energy system, it must be analyzed in the EIS (see CEQ regulation 1502.4). Summaries with references to the OSM Southern Utah Petition Evaluation Document (USOE, 1980) are incorporated in the text of the final EIS to reflect your concern.

Response 89-2

Impacts of mining cited in this paragraph were paraphrased from the EMRIA Report, (USDI, 1975) and the (USDI, 1979). As shown in Mining in the Alton Coal Lease Area of the Water Resources section of Chapter 4 in the final EIS, the text has been revised to indicate that subsequent studies by OSM have been completed and that specific mitigation is required.

Response 89-3

The assessment of impacts resulting from the mining of the Alton coal lease area is included in the AWV EIS because Section 1502.4 of the CEQ regulations require that all related components of a project be defined and evaluated. This same section recommended that tiering or summarization be used to avoid duplication. See also Response 22-2.

Response 89-4

The text is changed throughout the final EIS to reflect the comment.

SPECIFIC COMMENTS

1. Page S-5, Para. 2. "Preliminary information indicates that surface coal mining ... significantly higher visibility reductions."

Delete this statement.

Comment: The study on which this conclusion is based is not technically adequate. See comment Page 4-9, Para. 2.

2. Page S-5, Para. 4. "The pumping of 10,000 acre-feet of groundwater per year from the Navajo Sandstone Formation near Alton, Utah could adversely affect nearby springs."

Change to read: "... Utah might adversely affect certain springs."

Comment: The location of the potentially affected springs should be more clearly defined. Because of the lack of hydrologic connection between the Navajo Sandstone Formation and the overlying alluvial, Dakota, and Entrada aquifers, no springs fed by these latter formations would be affected by the proposed pumping. Within the lease area all existing springs originate from these upper aquifers. Thus, the nearest springs that could be impacted would be those located in Kanab Creek near Big Lake, a distance of nine miles from the proposed well field (Harry D. Goode, Response to Alton Unsuitability Petition Allegations, 6 August 1980). Utah International Inc. intends to design the well field in a manner (see comment Page 4-26, Para. 6) to reduce possible impacts on the springs.

3. Page S-8, Para. 7 "Preliminary information suggests that surface coal mining at the 8 million tons per year level at the Alton coal fields would reduce visual range in Bryce Canyon National Park by 1.67 percent."

Delete this statement.

Comment: The study on which this conclusion is based is not technically adequate. See comment Page 4-9, Para. 2.

4. Page S-11, Para. 1. "The pumping of 7,800 acre-feet of groundwater per year from the Navajo Sandstone Formation near Alton, Utah could adversely affect nearby springs."

Response 89-5

The results of both the joint OSM, NPS, BLM, EPA study and the UII studies are included in the Air Quality and Recreation and Aesthetics section of Chapter 4 in the final EIS. The interagency study indicates that emissions from the eastern section of the Alton mine would be visible from Yovimpa Point in Bryce Canyon National Park. References to the SU and EDF visibility studies have been deleted from the EIS because the joint OSM, NPS, BLM study and the UII study are more technically adequate.

Response 89-6

To reflect your concern, the text is revised to indicate results of the recent study by Goode (1980) as shown in Mining in the Alton Coal Lease Area section, Alternative 1, Chapter 4, of the final EIS.

Response 89-7

Refer to Response 89-5 for a discussion concerning this comment.

Comment: See comment Page S-5, Para. 4.

5. Page S-17, Para. 2 "A mine plan is expected to be submitted in July 1980."

Change to read: "Utah International Inc. plans to submit a mining and reclamation plan meeting the requirements of the 1977 Surface Mining Control and Reclamation Act in 1981."

6. Page 1-6, Para. 5. "The impact analyses, however, were not based on a mine plan, and are therefore not complete."

Delete this sentence.

Comment: The paragraph containing this statement touches on previous impact analyses of development on the Alton Leasehold. This sentence concludes that these analyses were not based on a mine plan and are therefore not complete. We do not agree with such a conclusion. We find nothing in the National Environmental Policy Act of 1969, nothing in the Council on Environmental Quality Regulations and nothing in the Surface Mining Control and Reclamation Act of 1977 that requires submittal of a mine plan as a basis to write a "complete" environmental impact statement. We agree fully that upon submittal the mine plan would be examined to determine how closely it parallels the proposed action of the EIS. If the mine plan has not changed substantially, the EIS should be found to be adequate for that plan of action.

7. Page 1-7, Para. 3. "Should the Secretary designate lands in the Alton fields as unsuitable for mining, then mining would be prohibited on those lands." (Emphasis added).

Replace "would" with "may".

Comment: The constitutionality of the unsuitability provisions of the Surface Mining Control and Reclamation Act of 1977 have been questioned and should be decided in the court system during 1981.

8. Page 2-25, Para. 1. "Wastes from the coal washing operation would be trucked back to mined-out areas for disposal or placed in a 50-acre tailings pond located within the coal preparation plant area (Fig. 2-3)."

Change to read: "Coarse wastes from the coal washing operation would be trucked back to mined-out areas for disposal

Response 89-8

Refer to Response 89-6 concerning this comment.

Response 89-9

Number 3 of the Unresolved Issues and Areas of Controversy section is revised in the Summary of the final EIS to reflect your comment.

Response 89-10

The text is changed to reflect the comment. The reference is removed from the final EIS.

Response 89-11

According to the OSM Southern Utah Petition Evaluation Document (USDI, 1980) should the certain lands petitioned in the Alton coal lease area be declared unsuitable for mining by the Secretary of the Interior, then no new permits could be issued in the area designated and no new coal leases would be granted.

while fine tailings would be placed in a 50-acre settling pond located within the coal preparation plant area."

9. Page 2-58, Table 2-20, Water Resources. "About 22 springs altered in Alton area. Erosion increased on 10,154 acres and downstream sedimentation increased. Groundwater pumpage could adversely affect well and spring yields in adjacent areas."

Comment: See comment Page 4-25, Para. 3; Page 4-25, Para. 2; Page 4-26, Para. 6.

10. Page 2-59, Table 2-20, Cultural Resources. "About 329 archaeological sites ... adversely impacted ..."

"About 259 archaeological sites ... adversely impacted."

Comment: These figures should be modified to reflect the lower site density on the Alton Leasehold. "See comment Page 3-21, Para. 1, "An average density ... in the Alton area."

11. Page 3-3, Para. 4. "Commonly occurring game animals in the area of Alton, Utah include mule deer, rabbit, mountain lion, sage grouse, and wild turkey. Other animals include coyote, bobcat, badger, various small mammals, raptors, nongame birds, reptiles, and rodents."

Delete "commonly occurring".

Comment: Recent wildlife investigations conducted on the Alton Leasehold have found that mule deer populations are quite low (1980 Wildlife Study, Mariah Associates). The reduced numbers of deer on the site are a result of low availability of food and water and high mortality during severe winters in the early 1970's. Mountain lions are not a commonly occurring game animal in the area of the Alton Leasehold. Lack of food and suitable water sources have kept populations in low numbers (Personal Communication with Michael P. Coffeen, Utah State Division of Wildlife Resources, July, 1980). Results of the Mariah Associates wildlife study will be provided to the OSM as input to the unsuitability petition review.

12. Page 3-3, Para. 6. "Three mandatory PSD Class I areas (areas where nearly any air quality deterioration would be considered significant) are in close proximity to the pro-

Response 89-12

The text is changed to reflect the comment. See the description of Alternative 1 in Chapter 2 of the final EIS.

Response 89-13

As shown in the final EIS, table 2-19 has been revised according to Goode's (1980) analysis of surface mining impacts on water resources in the Alton coal lease area.

Response 89-14

Based on site specific inventories which have been submitted to the BLM, an average site density of one site every 43 acres is expected in the Alton area. Until additional data is submitted to BLM this site density will be used for all cultural resources calculations concerning the Alton coal lease area. It will also be assumed that 75 percent or more of the sites found will be of National Register caliber.

Response 89-15

As discussed in your comment, "commonly occurring" is deleted from the text in the Wildlife section of Chapter 3 of the final EIS.

ject areas: Zion, Bryce Canyon, and Capitol Reef National Parks."

Delete "Capitol Reef National Park".

Comment: Capitol Reef National Park is more than 80 miles from the Alton coal leases and more than 150 miles from the proposed Warner Valley plant. This is not "close proximity".

Response 89-16

Alternatives 3 and 4 include coal railed from central Utah. Capitol Reef is in fairly close proximity to some coal fields in central Utah.

- 17 [13. Page 3-4, Para. 1. "The Las Vegas Air Quality Maintenance Area (AQMA) has been classified as a 'non-attainment' area for particular matter, carbon dioxide ... industrial growth." (Emphasis is added)
Replace "dioxide" with "monoxide".

Response 89-17

The Air Quality section of Chapter 3 is revised in the final EIS to reflect your comment.

- 18 [14. Page 3-8, Para. 1. "Office of Surface Mining, in conjunction with BLM, will delineate the alluvial valley floors in the Alton area during investigations which will be used as a basis in the unsuitability determination for the Alton Coal Fields."

Delete "which will be used as a basis."

Response 89-18

The Water Resources section of Chapter 3 in the final EIS is revised to reflect your comment.

- 19 [15. Page 3-9, Para. 2. "Groundwater aquifers in the vicinity of the Alton coal fields include the Quaternary alluvium, and the Navajo, Dakota, and Entrada Sandstones. ... Information compiled by Sandberg (1979) indicates that surface and groundwaters are closely related and that net water level reductions in irrigation wells may be due to reduced surface flow (and subsequent reduced groundwater recharge) of adjacent streams. According to Sandberg, 'this sensitivity suggests that change in recharge characteristics caused by mining would be likely to affect groundwater storage in the area.'"

Replace this paragraph with the following:

"The effects of mining on local/regional groundwater storage would be limited to the Quaternary alluvium and Dakota and Entrada Sandstones. The Navajo Sand-

stone is physically separated from these near-surface aquifers by intervening confining layers (Doelling and Graham, Southwestern Utah Coal Fields: Alton, Kaiporowits Plateau and Kolob-Harmony 1-66, USGS, 1972). This lack of hydrologic connection is particularly important since the Navajo Sandstone is a significant source of water and is tapped for water supply purposes by a number of users to the south of the Alton Leasehold (e.g., Kanab, Utah)."

Comment: As written, this paragraph implies that all four aquifers would be directly affected by mining. This situation is not the case.

- 20 16. Page 3-21, Para. 1. "Information extracted from BLM site inventory files and consultant reports indicate that a number of site-specific inventories were completed in the vicinity of the Alton coal fields in conjunction with coal testing programs."

Replace "in the vicinity of the Alton coal fields" with "on the Alton Leasehold".

Comment: See General Comments, Terminology.

- 21 17. Page 3-21 Para. 1. "Five archaeological sites were recorded as being on or within 1 mile of the proposed coal processing facilities. An additional 11 sites were found within a 5-mile radius of the complex."

Comment: The significance of the location of these 16 sites near the coal processing facilities should be clarified in the Final EIS.

- 22 18. Page 3-21, Para. 1. "These 16 archaeological sites are generally rather large in area (up to 200 miles in diameter), and are classed as lithic scatters and/or camps (inferring transient use)."

Change to read: "These 16 archaeological sites range from 3 meters to 200 meters in diameter and are classed ..." (emphasis is added).

Comment: The reports from the 1974, 1977, and 1979 archaeological clearance investigations conducted prior to Utah International drilling programs indicate a wide range of site sizes. Further, size is subject to the individual criteria applied by a particular archaeologist. The method to

Response 89-19

As shown in the Water Resources section of Chapter 3 in the final EIS, the text is revised to indicate that surface waters in the mine area are closely tied into shallow aquifer systems as indicated by Sandberg (1979).

Response 89-20

The Cultural Resources section in Chapter 3 is changed to reflect your comment in the final EIS.

Response 89-21

The Cultural Resources section in Chapter 3 is revised to reflect your comment in the final EIS.

determine the size of an archaeological site is not absolute, but is usually based on the density of material found in a site.

19. Page 3-21, Para. 1. "Intensive site-specific surveys on the area would be expected to find additional sites, and buried sites may exist in the area."

Delete "and buried sites may exist in the area."

Comment: The results of the 1980 archaeological survey conducted by the Museum of Northern Arizona on 7,000 acres of the Alton Leasehold (initial mining permit areas, coal preparation site, major haul roads) indicate a lack of cultural depth in the inventoried sites. The sites are mainly lithic scatters and appear to have been used for hunting and summer subsistence. None of the sites inventoried thus far would qualify for the National Register of Historic Places. Further, during the 1977 clearance investigation, sites were tested for cultural depth and none was found.

20. Page 3-21, Para 1. "An average density of one site, every 43 acres is expected in the Alton Area."

Change "43 acres" to "68 acres".

Comment: The results of the 1980 archaeological survey conducted by the Museum of Northern Arizona on 7,000 acres of the Alton Leasehold (initial permit areas, coal preparation plant site, major haul roads) indicate an average site density of one site every 68 acres (9.4 sites/square mile).

21. Page 3-25, Para. 1. "An undetermined amount of extreme eastern section of the Alton coal fields is visible from Yovimpa Point and consists of VRM Classes III and IV (Fig. 3-9). The coal fields lie approximately 4 to 6 miles from the overlook and have been modified by rangeland improvement activities, but essentially appear as a natural landscape."

Comment:

A. Add the following:

"The character of the landscape viewed from Yovimpa Point consists of a series of rolling hills covered with dense homogenous pinyon-juniper forest. Scenic quality rates from "B" to "C" landscapes (BLM VRM System) due to lack of visual diversity. The existing mining area landscape appears visually diverse only where patterns of pinyon-juniper and grass

Response 89-22

The Cultrul Resources section in Chapter 3 is changed in the final EIS to reflect your comment.

Response 89-23

Refer to Response 89-14 concerning this comment.

Response 89-24

Refer to Response 89-14 concerning site density.

clearing intermix.

The views from Bryce Canyon National Park include visible evidence of man's intrusion and alterations on the natural landscape. For example, the town of Tropic and related agricultural fields, although not visible from Yovimpa Point, are visible from the Park. Extensive pinyon-juniper chaining areas, both private and BLM, are seen from a majority of the Park's vista areas, and are visibly distinguishable from natural grasslands by the angular patterns produced. A local airstrip is visible from Yovimpa Point."

- B. Replace the word "fields" with "leases" in the Final EIS. This should be done throughout the document as discussed in the General Comments.

22. Page 3-25, Para. 5. "On public lands, the proposed mining area lies within the BLM Zion Planning Unit, which provides for coal mining under a multiple-use basis, requiring stringent environmental controls (Management Framework Plan, BLM, USDI, 1977)."

Change to read: "... a multiple use basis, and provides recommendations for stringent environmental controls ..."

Comment: The "stringent environmental controls" referenced on the Draft EIS refer to planning recommendations included in the BLM's draft Management Framework Plan (MFP) Supplement. The Draft EIS incorrectly implies that these BLM recommendations regulate surface coal mining, an activity regulated by the Office of Surface Mining pursuant to the Surface Mining Control and Reclamation Act of 1977.

The MFP supplement was prepared to incorporate the BLM Coal Management Program unsuitability criteria into the MFP. Utah International Inc. commented on the supplement in a 29 April 1980 letter to Mr. Morgan Jensen of the Cedar City District Office. That letter is attached and is to be included as part of these comments on the Draft EIS.

The MFP Supplement also contains a multiple use analysis section which makes a number of general recommendations for inclusion in specific mine plans throughout the planning area.

In summary, BLM's multiple resource planning of this unit recognizes mining as the primary land use and recommends environmental controls be included in a site-specific mine plan.

Response 89-25

The Alton Coal Lease Area section under Recreation and Aesthetics in Chapter 3 is revised in the final EIS to reflect your comment.

Response 89-26

As shown in the final EIS, the Land Use, Land Use Plans and Controls section of Chapter 3 is revised to reflect this comment.

23. Page 4-3, Para. 3. "Subsidence would occur on undermined lands, causing a change in present surface water runoff and erosion characteristics."

Change to read: " ... causing a minimal change in present ... "

Comment: Subsurface mining beneath unconsolidated valley areas within the mine permit area could result in subsidence. No subsurface mining is currently proposed under any of the major unconsolidated valley areas in the Alton Leasehold. The bulk of the subsurface mining is scheduled in the eastern block of the lease in upland areas located between the major stream channels and in the western block on the eastern edge of Sink Valley and its adjacent uplands. In general, the geologic structure of these upland areas would allow a slow and gradual subsidence averaging one foot of subsidence per five feet of coal extraction. The Surface Mining Control and Reclamation Act of 1977 requires that a subsidence control plan be submitted with an underground mining permit application. Further, because the topographic divide is close to the north of the mining site, the subsidence would have only negligible effect on the pattern of surface flow; the erosion potential which is dependent on surface flow should therefore be minimal.

Response 89-27

The Topography and Geology section in Chapter 4 is revised to include updated information concerning subsidence in the final EIS.

24. Page 4-3, Para. 3. "Disturbed lands would be reclaimed under the Office of Surface Mining Reclamation and Enforcement (OSM) regulations (30 CFR Parts 211 and 700) ..."

Change to read: " ... reclaimed under the provisions of the Surface Mining Control and Reclamation Act of 1977 ..."

Comment: In the light of the recent actions by the U.S. Court of Appeals in regard to the permit requirement sections of the Permanent Regulatory Program, the Surface Mining Control and Reclamation Act of 1977, not the regulations, should be cited as containing the standards for reclamation.

Response 89-28

The Topography and Geology section of Chapter 4 is revised to reflect your comment as shown in the final EIS.

25. Page 4-4, Para. 2. "An acceleration of soil erosion would be associated with construction and mining activities. The clearing of vegetation, burrowing, and excavating would result in a loss of soil productivity and increase sedimentation of streams."

Delete "loss of soil productivity and"

Add the following as a third sentence: "Utah International

will include sedimentation control measures, such as sedimentation ponds and stream channel restoration in the mining and reclamation plan to avoid excess sediment loads in accordance with the Surface Mining Act."

Comment: This comment is misleading and is not based upon the results of revegetation studies conducted since 1975 on the Alton site (Frischknecht and Ferguson, 1979 Annual Progress Report, Revegetation Studies on the Alton Leasehold, USFS, January, 1980). In those studies, two erosion control methods were tested, pitting and contour furrowing. Tests resulted in a control of erosion on the disturbed site. In addition, other control measures to prevent the increase sediment loading of streams, such as sedimentation ponds and stream channel restoration, will be included in the mining and reclamation plan.

The existing productivity of the soils at Alton is very low as documented in the EMRIA Report No. 4, 1975 and in more recent vegetation surveys of the site (Vegetation Survey of Alton Leasehold, Mariah Associates, 1980). Productivity on the reclamation test plots indicate that soil productivity has actually increased since disturbance.

26. Page 4-4, Para. 3. "Loss of vegetation on affected lands would result in ... the reduction of wildlife habitat."

Change to read: "... the temporary reduction of wildlife habitat."

Comment: Most of the reduction in wildlife habitat associated with the Alton Leasehold would be temporary in nature. Mining operations would disturb approximately 400 acres per year which would be reclaimed directly following mining disturbance. Much of the Alton Leasehold is a poor wildlife habitat due to overgrazing and the exclusion of fire (Personal Communication with Neil Frischknecht, USFS, July, 1980). Habitat diversity is low and much of the area lacks a herbaceous understory which is important to wildlife (Personal Communication with Neil Frischknecht, USFS, July, 1980). Through the use of proper reclamation planning and practices, wildlife habitat would be improved on the site by increasing diversity and available food.

27. Page 4-4, Para. 3. "Loss of vegetation on affected lands would result in accelerated erosion of soils ..."

Comment: See comment Page 4-4, Para. 2; Page 4-25, Para. 4, 5.

Response 89-29

The analysis contained in the EIS assumes mitigating measures. However, these measures do not insure that such impacts as losses of soil productivity and increased sedimentation of streams would not occur. They can only mitigate them to a degree of success dependent upon pre-existing soil conditions, slope, etc., and on the success of reclamation.

Response 89-30

The text has been changed to read "the temporary reduction of wildlife habitat."

Response 89-31

Refer to Response 89-29 for a discussion of this topic.

28. Page 4-4, Para. 3. "In especially arid regions such as the Mohave Desert, affected areas would require up to 100 years to recover to pre-existing vegetation densities, even after reclamation and reseeding."

Change to read: "In especially arid regions such as the Mohave Desert, pre-mining plant densities can be established within several years following disturbance if proper reclamation practices are employed."

Comment: The accuracy and validity of the statement in light of recent reclamation work is seriously in question. Reclamation studies undertaken by Utah International Inc. under extremely arid conditions (less than 6 inches rainfall per year) at the Navajo Mine in Farmington, New Mexico have demonstrated that pre-mining plant densities can be established within several years following disturbance if proper reclamation practices are employed. (Pieper, Analysis of Revegetation Plots on the Navajo Mine Lease, January, 1977). These practices include the selection of adapted plant materials, the conservation of topsoil, and the wise use of irrigation water and fertilizer.

29. Page 4-4, Para. 3. "The amount of vegetation that would be disturbed during construction and mining activities would range from as little as 16,030 acres under Alternative 4, to as much as 36,981 acres under Alternative 1 for the life of the project."

Add the following:

"On the Alton Leasehold, approximately 400 acres of land on the average would be surface-mined per year. Reclamation of disturbed land would be undertaken on a yearly basis directly following mining as required by the Surface Mining Control and Reclamation Act of 1977."

Comment: It should be emphasized that vegetative clearing would occur over the project life of approximately 40 years. A more appropriate and meaningful disturbance figure would be based on the amount of acreage disturbed on an annual basis. On the Alton Leasehold, approximately 400 acres of land would be surface-mined per year. Reclamation of disturbed land would be undertaken on a yearly basis directly following mining as required by the Surface Mining Control and Reclamation Act of 1977. Thus, large acreages of land would not remain in a disturbed condition for long periods of time.

30. Page 4-4, Para. 4. "Wildlife populations should recover to

Response 89-32

The Alton coal lease area is not presumed to lie in the Mojave Desert. This statement is intended for the proposed components on the desert, which include the slurryline, transmission lines, and the Warner Valley powerplant and water project sites.

The Soils section in Chapter 4 of the final EIS is revised to include more recent information concerning revegetation success on the Mojave Desert. According to Vasek (1971), recovery could occur within 30 years, but Roland (1980) states that natural recovery (eg., without irrigation, etc.) could take in excess of 100 years.

Response 89-33

Refer to Response 88-110 concerning this topic.

pre-existing levels in the long term (after 40 years)."

Change to read: "Recovery of wildlife populations to pre-existing levels would be minimized with proper reclamation and mitigation measures."

Comment: Wildlife population reductions on the Alton Lease hold would be limited in number and local in nature. Habitat disturbance by mining would be limited in size (approximately 400 acres per year). With practice of reclamation directly following mining disturbance, habitat reduction would be temporary and minimized. Further, wildlife losses would be reduced by mitigation treatments on adjacent unmined areas that would draw wildlife species away from affected areas. Wildlife research work has shown that population levels are able to increase dramatically with adequate amounts of food, cover and water. (The Mitigation Symposium: A National Workshop on Mitigating Losses of Fish and Wildlife Habitats, USFS, July, 1979). Reclamation and mitigation measures will provide the necessary requirement to minimize the time span necessary for population levels to recover.

Response 89-34

It is assumed that "maximized" is meant instead of "minimized."

Many climatic factors (i.e., precipitation, temperatures, severe weather) would affect reclamation success as well as the restoration of premining wildlife populations. Therefore, no change to the text is deemed necessary.

31. Page 4-9, Para. 2. The entire paragraph should be changed as follows:

"The Southern Utah EIS (SU, 1979) included an attempt to quantify visibility degradation due to mining activities, as did the Environmental Defense Fund, et al, Document (1979). Both documents contain serious errors in their methodology, and therefore, their results should not be used to judge potential impacts of surface mining operations. NPS is presently studying the significance of potential impacts to air quality related values (including visibility) in Bryce Canyon National Park in the joint OSM, NPS, BLM, EPA study. Similarly, Utah International is carrying out a visibility study in conjunction with the agency studies. This study will be available to the BLM in September. Both efforts are much more comprehensive and technically valid than any work done to date. The present policy of NPS regarding visibility impairment is to protect the scenic values of Class I areas from any adverse impairment at human levels of perception."

Comment: The SU(1979) and Environmental Defense Fund, et al, (1979) studies are grossly inadequate in terms of technical validity. Both use a single point, worst-case particulate concentration estimate to calculate potential visibi-

lity reductions over vistas approaching 100 miles. Throughout most of the 100 mile vista, there would be no concentration of particulates due to surface mining. The methodology assumes, however, that the worst-case single point concentrations would occur throughout the 100-mile line-of-sight. In addition, the Environmental Defense Fund, et al., study makes serious errors in determining the worst-case single point particulate concentration. Among the more serious errors, the study uses a model that apparently calculates a plume centerline concentration more than 5 miles downwind, assumes that stable, low wind speed meteorological conditions would persist for 24 hours, and assumes that the greater than 2,500 ft. elevation difference between the eastern end of the Alton lease area and Yovimpa Point in Bryce Canyon would make no difference in pollutant diffusion. All of these serious errors assure that the concentration estimate is at least one order of magnitude too great.

Response 89-35

A discussion concerning this comment may be found in Response 89-5.

32. Page 4-24, Para. 7. "Removing and replacing the overburden during surface mining activities would contaminate ground water from increased leaching of disturbed material because total dissolved-solids (TDS) concentrations could increase two or more times and a high concentration of nitrate in overburden material indicates that water in saturated overburden could become nitrate contaminated and unsuitable for human consumption."

Delete the entire statement.

Comment: The first part of this sentence concludes that total dissolved-solids (TDS) concentrations in local groundwaters would increase two or more times due to leaching through the disturbed overburden. This statement is not supported by any factual data.

Existing data on groundwater quality in the Southern Utah Environmental Impact Statement (SU, 1979) shows a wide range of TDS values; "chemical analyses of water from four wells on or near the lease area show dissolved solids concentrations ranging from 641 to 2,210 mg/l" (SU, 1979). These concentrations are the result of the movement of local groundwaters through undisturbed overburden material. While disturbance of this material could conceivably lead to minor increases in the solids concentrations, a two or more times increase in what are already relatively high levels is quite unlikely; the EIS does not present any persuasive reasons for believing otherwise.

The second part of the sentence concludes that "a high concentration of nitrate in overburden material," would result

in an increase of nitrate contamination of groundwater. This conclusion is misleading because it is based on conflicting statements found within the Southern Utah EIS. That document observes that "the analytical data (on overburden) did not indicate trace elements in amounts potentially toxic to native plants. Nitrogen, iron and phosphorous levels were low in all samples" (P. II-6). Table 5 on Page II-7 also indicates that nitrogen is possibly deficient in all overburden groups. However, on Page II-9 the conclusion is drawn that "data on the overburden (UII, 1975) show considerable variability with respect to sodium absorption ratio, pH, and electrical conductance (table 5), relatively high concentrations of sodium, nitrate, sulfate, but no toxic concentrations of trace elements." This conclusion is invalid because Table 5 contains no indication that nitrate is found in high concentrations in the overburden. Thus, the finding that disturbed overburden would lead to potentially harmful nitrate concentrations in local groundwaters is incorrect because it is based on an invalid conclusion rather than the actual analytical data.

Response 89-36

The impacts of mining presented in the AWW draft EIS were summarized from the latest published reports available prior to the completion of the draft. Analysis of the mining itself is not a function of this EIS. Conclusions identified are directly from other sources. The Water Resources sections of Chapter 4 in the final EIS indicate the results of the OSM Southern Utah Petition Evaluation Document (USOI, 1980).

33. Page 4-25, Para. 1. "Contaminated groundwater would probably be restricted to the vicinity of the mine ... "

Delete "contaminated."

Comment: In light of the comment on Page 4-24, Para. 7, the description of local groundwater as "contaminated" is inappropriate. Existing data in the Southern Utah EIS indicate that local groundwater quality would not be measurably affected by overburden disturbance.

Response 89-37

The Water Resources section under Alternative 1 of Chapter 4 is revised to reflect your comment in the final EIS.

34. Page 4-25, Para. 2. "Accelerated erosion and associated reductions in water quality and quantity would occur on an undetermined acreage depending on the location of surface and subsurface mining and ancillary facilities Both surface and subsurface water quality and quantity would be adversely affected on 10,154 acres of the mining permit area."

Change to read: "... reductions in water quality and quantity would occur on an amount of acreage dependent on the location ... "

Delete second sentence, "Both surface ... mining permit area."

Comment: This acreage figure represents total acreage disturbed over a mine life of 40 years. On the Alton Leasehold, an average of approximately 400 acres of land

would be surface mined per year. Reclamation would follow mining as required by Section 515(b)(16) of the Surface Mining Control and Reclamation Act of 1977. Thus, large acreages would not be left in a disturbed condition for long periods of time.

See comment Page 4-25, Para. 4, 5.

Response 89-38

This comment is addressed in Response 89-2.

35. Page 4-25, Para. 3. "As many as 22 springs in their present location and condition could be altered by surface mining, depending on the mining plan. The combined flow of the springs averages about 100 to 150 acre-feet of water per year. Water originally discharging from these springs may discharge from other areas on the same watershed."

Add this sentence: "The water supplies lost from these springs would be replaced by alternative surface water sources (e.g., stock ponds)."

Response 89-39

The Water Resources section under Alternative 1 of Chapter 4 is revised to reflect information presented by Goode 1980.

Comment: While mining operations will destroy some of the springs, the quantity of water generated by these springs is rather small, approximately one to three gallons per minute (Goode, 1964) for each affected spring. Restoration of such small water sources is impractical. Instead, where necessary, Utah International Inc. would develop alternative surface water sources, (e.g., stock ponds) to replace any spring waters lost during mining operations.

36. Page 4-25, Para. 4, 5. "Erosion and sediment yield to streams would be accelerated by surface mining. Sediment loads would be expected to increase in Kanab, Thompson, and Skutumpah Creeks, and Meadow Canyon Wash (Paria River Watershed). The sediment load passing from the mine area could create maintenance problems of sedimentation at downstream irrigation diversions and canals. In addition, increased sedimentation may occur in stream channels directly below the mine site, perhaps into lower Kanab Creek and Johnson Wash.

Increased sediment yields would occur from exposed soils between the time of disturbance and reclamation. Higher sediment yields would be expected if additional water would be introduced into stream channels from diversions around the mining area, runoff from new mine roads, or possibly from dewatering of the overburden or coalbeds. This would result in erosion of stream channel banks or beds, particularly where water would be introduced continuously into channels that were formerly dry most of the time."

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Add the following paragraph:

"While some increase in the erosion rate on the Alton Leasehold may be unavoidable, current mine and reclamation planning for the project will include an erosion control plan. This plan, which will include the use of land shaping, revegetation, and structural controls (e.g., sedimentation ponds, stream diversions, and channel restoration), will be designed to protect downstream water uses from excessive sediment loads. This plan is required by the Surface Mining Control and Reclamation Act of 1977. Therefore, assessment of mining-related impacts must include these standard operating practices."

Comment: It is important to note that the findings in the EMRIA Report No. 4 were based on an assumption that sediment control would be limited solely to revegetation, especially since the ANVES Draft EIS bases its conclusions on sediment yield data from that 1975 report. As the previous paragraph notes, lease area reclamation planning will include, not only regrading and revegetation, but also structural and other "best management practice" controls. The findings presented in the EMRIA Report No. 4 indicated that, except in higher slope areas, the average sediment yield from the lease area following revegetation would not be significantly greater than currently exists. Current levels are already relatively high due to the erodible nature of local soils and the lack of a vegetation understory. Thus, Utah International believes that with the inclusion of the additional control measures that are being developed during the current planning effort, any sediment problems that remain can be effectively mitigated.

Response 89-40

Refer to Response 89-2 concerning this topic.

- 41
37. Page 4-25, Para. 5. "Increases in sediment yield would be temporary in areas where reclamation efforts would be successful, but reclamation may be hampered by the lack of topsoil, poor physical and chemical soil characteristics, and the variability of precipitation (EMRIA, USDI, 1975)."

Delete "but reclamation may be hampered ... variability of precipitation (USDI, 1975)."

Comment: A recent detailed soil survey of the area prepared for Utah International Inc. has shown that adequate quantities of suitable topsoil are available on the lease site for reclamation purposes (Western Ecological Services Company, Soil Resources Assessment of Alton Coal Lease Area, July, 1980). In addition, results of research on reclamation test plots, recommended by the 1975 EMRIA Report, have shown that

many of the materials thought to be unsuitable as a plant growth medium are in fact suitable. (Frischknecht and Ferguson, 1979 Annual Progress Report, Revegetation Studies on the Alton Leasehold, USFS, January, 1980). Historical experience by the Bureau of Land Management and private landowners in the Alton area with rangeland improvement as well as the experience garnered from the reclamation test plots indicate that the variability of precipitation will not hamper revegetation success to the degree indicated in the EMRIA Report.

38. Page 4-25, Para. 6. "Water in and above mined coal beds would be removed during the mining process by pumping or simply by gravity drainage. The quantity and quality of the water in these beds has not been sufficiently defined to be analyzed quantitatively (Hydrologic Evaluation, USDI, 1979). The total quantity of water may be between 6,000 and 10,000 acre-feet (SU, 1979). The quality of the water in five samples from the Dakota and Tropic geologic formations (in which the coal beds lie) ranged from 444 to 2,760 milligrams per liter (mg/l) of TDS. It is possible that the salinity of ground water intercepted by surface mining could be twice the salinity of the nearest drainage. Releasing this poorer quality water to the surface drainage could increase the salinity of the streamflow. The resulting flow and salinity would depend on the actual amount and quality of the added ground water, values which cannot be accurately identified at the present time. The impacts of such a situation are unknown."

Add the following paragraph:

"The mining and reclamation plan will contain procedures to effectively minimize any impact that might be attributable to mine inflow water discharge. The control facilities to be proposed by that plan should work to contain mine inflow discharge waters within the boundaries of the lease area. Thus, while these discharge waters may be of lower quality than existing streamflows, their addition is unlikely to have any major impacts on the quality or quantity of surface water flows outside the boundaries of the mining lease area."

39. Page 4-26, Para. 2. "An undetermined amount of subsidence could occur in areas of underground mining. Depending on the area, this may result in alterations in streamflow. The extent of this damage cannot be quantified."

Comment: See comment Page 4-3, Para. 3.

Response 89-41

The Water Resources section under Alternative 1 of Chapter 4 in the final EIS has been revised to include the studies mentioned, as well as studies by OSM (1980), and Weiner (1980).

Response 89-42

The Water Resources section under Alternative 1 of Chapter 4 in the final EIS is revised to indicate that specific impacts cannot be predicted prior to a mining plan, and that such a plan will include mitigation as required by OSM.

Response 89-43

The Water Resources section under Alternative 1 of Chapter 4 in the final EIS has been revised to indicate that no specific mine plan has been submitted, and that areas of subsurface mining are not known. The contention in your comment page 4-3 paragraph 3, that because mining would be close to the topographic divide and "subsidence would have only negligible effect on the pattern of surface flow" can be disputed by recent information by Schmitt (1980) who indicates that all perennial streams in the Alton lease area originate above the lease area from springs in geologically younger formations. Thus subsidence affecting flow of the perennial streams in the lease area could affect surface flow and drainage patterns.

40. Page 4-26, Para. 6. "The real issue regarding the proposed Navajo ground water withdrawals is not the amount of water available, but whether pumping would affect existing or pending water rights. To determine this, an estimate of the areal extent of the cone of depression due to pumping in the Navajo Formation would have to be made. To accurately determine the extent of water table drawdown, a long-term pumping test using strategically placed observation wells would have to be conducted. No such test has been conducted to date by the applicant."

44 Comment: In order to resolve the above issue, Utah International is initiating a comprehensive study to locate the desired pumping wells in a manner that will minimize or avoid an impact on existing water rights. This study will include a comprehensive pumping test and an assessment of site-specific geohydrologic conditions. This study will be thoroughly reviewed by the Utah State Engineer.

Data gathered from these tests must provide convincing evidence that an adequate water supply for both the slurry line and local users is available. This must occur before substantial private capital is invested in the coal slurry system or the Utah State Engineer approves the application. Utah International is currently drilling a deep well into the Navajo Sandstone as part of this deep water study.

- 45 41. Page 4-28, Para. 4. "No determination can be made from the available information to conclude if interference would occur to other existing or potential aquifer users. Under the worst possible conditions, the cone of depression could extend 10 to 15 miles in a southerly direction. Water tables could be lowered enough to dry up springs or cause additional pumping costs to well operators. The time required for the cone of depression to extend this distance cannot be determined due to insufficient data."

Comment: Utah International believes that our recently initiated comprehensive testing program (see comment on Page 4-26, Para. 6) will resolve the aforementioned data insufficiency and that for the sake of completeness the Final EIS should describe it.

- 46 42. Page 4-39, Para. 4. "The possible impacts to wetlands and floodplains from future coal development is not clearly understood because the actual areas to be mined and mining methods have not yet been identified by the mining operator(s) in a mine plan. Such information will be made available by the mining operator to OSM as a part of the

Response 89-44

Refer to Ground Water Pumping for Coal Slurry section, Alternative 1, Chapter 4, in the final EIS for a discussion of the present aquifer testing program of UII.

Response 89-45

The Ground Water pumping for Coal Slurry section under Alternative 1 of Chapter 4 in the final EIS indicates that UII is presently conducting an aquifer testing program to resolve the data insufficiency.

mining plan approval process. A mining plan must be approved by OSM before mining could occur."

Replace the previous paragraph with the following:

"The results of a field reconnaissance conducted by both Utah International Inc. and G. W. Sandberg of the U.S. Geological Survey indicate that most of the lease area streams are ephemeral or intermittent and tend to be deeply incised due to continuing erosional effects. As a result, the areas surrounding the streams are not subject to frequent flooding and peak streamflows are likely to be contained within the existing stream banks. Further information on flooding potential is currently being generated by an on-going hydrologic baseline study of the lease area. This study will include mapping and physical description of all lease area drainage basins and appropriate drainage facilities. The information will be provided to the OSM for their consideration in the current unsuitability evaluation of the Alton Coal Fields."

43. Page 4-40, Para. 5. "NPS has expressed concern that revegetation of coal-mined lands south of Bryce Canyon National Park could introduce plants not native to the area. Should this occur it would be possible that these introduced plant species could eventually become established within the park, thereby altering its natural character."

Delete these statements.

47 Comment: Non-native species are already present in Bryce Canyon National Park. In a recent trip through Bryce Canyon National Park a minimum of 8 non-native species were sighted along road corridors and pathways within Park boundaries (Personal Communication with Neil Frischknecht, USFS, July, 1980).

Due to the elevation difference of over 2,000 feet between the coal field and the Park, transport of non-native seed by wind or expansion of vegetation communities is extremely unlikely. Wildlife would present the only feasible means of seed transport.

- 48 44. Page 4-43, Para. 3. "Where data is incomplete, inconclusive, or simply nonexistent, average densities of 15 sites per section (840 acres), or one site per 5 miles of linear distance (transmission lines, pipelines) is assumed and in-

Response 89-46

The Wetlands and Floodplains section under Alternative 1 of Chapter 4 in the final EIS has been revised to indicate that there are ongoing hydrologic studies to meet requirements of Executive Orders 11990 and 11988. Sandberg's (1979) study addressed only a small portion of the lease area and may, according to Goode (1980), not accurately reflect conditions in Alton West.

Response 89-47

While some exotic species may already exist in Bryce Canyon National Park, the concern is that additional exotic species may be introduced. The Vegetation: Species of Concern section in Chapter 4 of the final EIS is changed to state "thereby further altering its natural character."

256

corporated in the analysis of impacts."

Comment: See comment Page 3-21, Para. 1. "An average density ... in the Alton area."

Response 89-48

Refer to Response 89-14 concerning this comment.

45. Page 4-43, Para. 3. "It is further assumed that 95 percent or more of these sites will be archaeological (rather than historical), and that 75 percent or more will be found to be of National Register of Historic Places Caliber under the criteria that they '... have yielded, or may be likely to yield, information important in prehistory ...' (36 CFR Part 60)."

Delete "and that 75 percent ... (36 CFR Part 60)."

Response 89-49

This comment is discussed in Response 89-14.

49 Comment: The results of a recent survey conducted on 7,000 acres of the Alton Leasehold (initial mining permit areas, coal preparation plant site, major haul roads) by the Museum of Northern Arizona indicate that very few of the inventoried sites would qualify for the National Register of Historic Places. The sites are mostly lithic scatters indicating use for hunting and summer subsistence. The significance of these sites lies in their data content and contribution to knowledge of the cultural resources of the region. The sites will be sampled and studied prior to any ground disturbance. This pre-mining sampling will preserve their inherent data content. Results of this survey will be supplied to the OSM for consideration in the unsuitability petition review.

46. Page 4-43, Para. 5. "An estimated 238 sites would be adversely impacted during mining activities on 10,154 acres of mining permit area at Alton. Of the total 238 sites, at least 180 would probably be of National Register caliber."

50 Replace "238 with "150."

Delete second sentence.

Response 89-50

Refer to Response 89-14 for a discussion concerning this comment.

Comment: See comment Page 3-21, Para. 1, "An average density ... in the Alton area;" Page 4-43, Para. 3, "It is further assumed ...".

- 51 47. Page 4-47, Para. 5. "Mining activities would generate dust, noise, and air pollutants, which could impact aesthetic and recreational values in nearby Bryce Canyon National Park by reducing air quality and visibility for the life of the project ..."

Replace the sentence with the following paragraph:

"Mining activities would generate noise, dust, and other other air pollutants like mining vehicle-related emissions. According to the air quality emissions inventory submitted to the OSM, BLM, NPS, and EPA by Utah International, Inc., air pollutants other than dust are insignificant and would therefore have no effect on the Park. Fugitive dust associated with mining activities would constitute an emissions source. However, an air quality visibility modeling study conducted by Utah International, Inc., indicates that neither the air quality in the Park or the regional visibility looking out from the Park would be adversely affected.

Comment: The sentence incorrectly implies that the dust, noise and air pollutants associated with mining activities would all adversely affect the visitor experience in the Park. A number of studies are nearing completion which have addressed these questions.

Response 89-51

Refer to Response 89-5 for a discussion concerning this comment.

48. Page 4-47, Para. 5. "Blasting at the mine could permanently alter the delicate erosional features in Bryce Canyon (OSM in cooperation with NPS will conduct blasting tests at Alton in the summer of 1980 to determine the significance of these impacts)".

Change to read: "The effects of blasting on the delicate erosional features in Bryce Canyon National Park is an environmental concern (OSM in cooperation with NPS will conduct blasting tests at Alton in the summer of 1980 to determine the significance of these impacts)."

Comment: Although damage depends on many variables, it is generally found that plaster cracks or ravelling of slopes can occur at a particle velocity of approximately two inches per second. Using a typical blast design for coal mining of this nature, the calculated particle velocity indicates a worst-case blast effect on Bryce Canyon to be 0.048 inches per second. This calculation suggests that the particle velocity would have to be 41 times greater than anticipated to have any effect on the topographic features of the Park.

Seismic effects from blasting at the mine would not be detectable to personnel or visitors at Bryce; only by the installation of very sensitive seismic instrumentation could blasting be detected at the Park.

Response 89-52

Your comments have been noted; the text has been revised to reflect the results of the OSM/NPS blasting study.

49. Page 4-47, Para. 6. "During the life of the mine 35 to 100

acres would appear to the viewer as cleared, raw earth at any one time."

The sentence should be deleted and replaced with the following:

"No surface mining would be seen from the Park until mining progressed to Table Mountain, a landform approximately 10 miles from Yovimpa Point. This would occur about seven years after the commencement of mining.

Of the approximately 5250 surface-mineable acres on Alton East, less than 1550 acres would be visible from Yovimpa Point. This would result in an average surface disturbance rate of about 55 acres per year.

The greatest disturbance level would present about 315 acres of mined-land that had been reclaimed in less than one year. This would occur at a distance of about 8 miles."

Comment: These more detailed numbers were developed from a refined viewshed map that was compared with a preliminary mining schedule to determine the magnitude of seen areas under active surface disturbance. This study should be available to the OSM from Utah International by 15 September.

Response 89-53

Your comments have been noted. The text has been revised to reflect information received from Utah International Inc. and the SUPED hearings.

50. Page 4-47, Para. 6. The third sentence in this paragraph should be written as follows:

"Mining and related activities would be evident from observation points on the southern rim of the Paunsaugunt Plateau. These include lands administered by the U.S. Forest Service and the National Park Service.

There are no existing vistas on the Paunsaugunt Plateau in Dixie National Forest. Although no plans or funds exist to develop an overlook at Powell Point, the U.S. Forest Service has expressed the idea that if an overlook were to be developed it could be a point of interpretation describing the landscapes uses and the evolution over time. There are no current plans or funds to develop an overlook at Mill Creek/Powell Point and none are anticipated in the foreseeable future.

Ninety-five to ninety-eight percent of the forest recreation visitation is in the East Fort Basin area near Tropic Reservoir, which is 15 miles north of Powell Point. (Personal Communication, U.S. Forest Service District Ranger)."

Response 89-54

The Recreation and Aesthetics sections are revised to reflect this comment in Chapter 4 of the final EIS.

51. Page 4-58, Para. 1. The following paragraph should be added to the description of impacts from mining the Alton Leasehold:

"Due to the current low productivity of the Alton Leasehold, proper reclamation will have a beneficial land use impact due to improved vegetation management."

55 Comment: The low productivity of the site is documented by BLM's Management Framework Plan (MFP) for the Zion Planning Unit. It is exemplified by the fact that a major portion of the area is unimproved rangeland and consists of pinyon-juniper, an invading vegetation type which has replaced native grasses. More detailed information confirming the MFP data in the form of vegetation maps and land use maps has been or will be provided to the OSM by Utah International.

52. Page 4-70, Table 4-7, Water Resources. "Loss of natural flow in as many as 22 local springs and reduction in yields of an unknown number of wells and springs in adjacent valleys due to ground water pumping of the Navajo Sandstone aquifer at Alton; and contamination of sedimentation of surface streams due to surface strip mining of coal."

56 Comment: See comments Page 4-25, Para. 3; Page 4-26, Para. 6; Page 4-25, Para. 4,5.

53. Page 4-71, Table 4-7, Vegetation/Species of Concern. "Adverse impact to an unknown amount of habitat and numbers of various species of concern in the affected states (Appendix 7) with the construction and operation of project components."

57 Add the following: "However, no known threatened or endangered plant species would be affected by the development of the Alton Leasehold."

54. Page 4-72, Table 4-7, Cultural Resources. "Adverse impact to an estimated 329 archaeological sites with the construction of various project components."

58 Comment: See comment Page 2-59, Table 2-20.

55. Page 4-72, Table 4-7, Recreation and Aesthetics. "Part of the visual resource as viewed from Bryce Canyon National Park degraded with strip mining activities at the Alton col fields." (Impact)

Response 89-55

Productivity of the area may continue to be low after the revegetation process, and may only benefit grazing animals. Other resource values such as recreation, watershed, and cultural resources would not be improved by revegetation. Therefore the paragraph has not been added.

Response 89-56

Table 4-7 has been revised as per Goode (1980) in the final EIS.

Response 89-57

A complete inventory for endangered plants in the Alton coal lease area has not been completed to date. Therefore no change is made to table 4-7.

Response 89-58

Refer to Response 89-14 regarding this comment.

"Portions of the visual resource would be permanently altered even after reclamation." (Maintenance and Enhancement of Long-Term Productivity)

Change Impact to read: "Part of the visual resource as viewed from Yovimpa Point degraded during active mining on the Alton coal leases. This would be a temporary impact. Properly designed successful reclamation would return or enhance this viewscape to the pre-mining Visual Resource Management (VRM) classes.

Change Maintenance and Enhancement of Long-Term Productivity to read: "The ratio of clearings to Pinyon-Juniper forest would increase after reclamation. The VRM class would probably be upgraded in some portions of the altered view."

Change "Yes" to "No" in both Irreversible and Irretrievable Commitment of Resources columns.

- 60 56. Page 4-73, Table 4-7, Recreation and Aesthetics. "Blasting associated with mining activities in the Alton coal field could alter or destroy the delicate erosional features in Bryce Canyon National Park."

Comment: See comment Page 4-47, Para. 5, "Blasting at the mine ..."

- 61 57. Page 4-73, Table 4-7, Land Use. "Change in zoning in Kane, Washington, and Clark Counties for those areas to be occupied by the Alton Coal Mine ..."

Comment: The response in the Unavoidable Adverse Impact column should be changed from "Yes" to "No." A zoning change is not an adverse impact.

- 62 58. Page 4-74, Para. 5. "The strip mining of coal at the Alton Coal Fields ... full production of 10.5 million tons per year (SU, 1979)."

Delete this statement.

Comment: See comment Page 4-9, Para. 2.

- 63 59. Page 4-78, Para. 7. "The major impact areas would include reduction or elimination of springflow as a result of ground water pumping, disturbance of shallow ground water aquifers and backfill replacement, surface water contamination from

Response 89-59

Table 4-7 is revised as shown in the final EIS. After successful reclamation VRM Class III and IV criteria would be satisfied. It has not been determined if VRM Class II objectives would be satisfied after reclamation.

Response 89-60

Table 4-7 is revised as shown in the final EIS to correspond with text revisions in Chapter 4.

Response 89-61

As shown in the final EIS, table 4-7 is revised to reflect your comment.

Response 89-62

This comment is addressed in Response 89-5.

mine wastes, and increased sedimentation on 4,488 acres of lands to be disturbed by mining."

Comment: See comments Page 4-25, Para. 3; Page 4-24, Para. 7; Page 4-25, Para. 6; Page 4-25, Para. 4,5.

- 64 [60. Page 4-79, Para. 1. "Mining backfill may contaminate shallow aquifer water quality locally by increasing salinity and nitrate concentrations. The extent of this contamination should be restricted to the area of the mine because both the backfill and present aquifer characteristics appear to be poor (SU, 1979; Hydrologic Evaluation, USDI, 1979)."

Comment: See comment Page 4-24, Para. 7.

- 65 [61. Page 4-79, Para. 2. "Accelerated erosion in mining areas would cause an increase in sedimentation in Kanab, Thompson, and Skutumpah Creeks; and Meadow Canyon Wash ... "

Comment: See comment Page 4-25, Para. 4, 5.

- 66 [62. Page 4-79, Para. 7. "NPS has expressed concern that revegetation of coal-mined lands south of Bryce Canyon National Park could introduce plants not native to the area. Should this occur, it would be possible that these introduced plant species could eventually become established within the Park, thereby altering its natural character."

Comment: See comment Page 4-40, Para. 5.

- 67 [63. Page 4-80, Para. 4. "Where data is incomplete, inconclusive, or simply nonexistent, average densities of 15 sites per section (640 acres), or one site per 5 miles of linear distance (transmission lines, pipelines) is assumed and incorporated in the analysis of impacts."

Comment: See comment Page 3-21, Para. 1, "An average density ... in the Alton area."

- 68 [64. Page 4-80, Para. 4. "It is further assumed that 95 percent or more of these sites will be archaeological (rather than historical), and that 75 percent or more will be found to be of National Register caliber under the criteria that they '...have yielded, or may be likely to yield, information important in prehistory ...' (36 CFR, Part 60)."

Comment: See comment Page 4-43, Para. 3, "It is further assumed ... "

Response 89-63

The Water Resources section under Alternative 2 of Chapter 4 of the final EIS is revised to reflect your comment.

Response 89-64

Your concern is addressed in Response 89-63.

Response 89-65

The text in the Water Resources section under Alternative 2 in Chapter 4 has been revised in the final EIS to indicate that an increase in erosion could occur.

Response 89-66

Refer to Response 89-47 concerning your comment.

Response 89-67

This comment is discussed in Response 89-14.

Comment: See comment Page 4-43, Para. 3, "It is further assumed ... "

65. Page 4-81, Para. 2. "An estimated 200 sites would be adversely impacted during mining activities on 8,488 acres of mining permit area at Alton. Of the total 238 sites, at least 180 would probably be of National Register caliber."

Comment: See comment Page 3-21, Para. 1., "An average density ... in the Alton area;" Page 4-43, Para. 3, "It is further assumed ... "

66. Page 4-83, Para. 1. "Mining activities could impact, for the life of the project, the recreational values in Bryce Canyon National Park through reductions in visibility and the visual intrusion of the mine on the landscape as viewed from Yovimpa Point and the Promontory. Modifications to the line, form, color, and textural qualities of the characteristic landforms caused by strip mining activities would alter the visual quality of the area and would not meet VRM Class IV objectives."

Comment: See comment P. 4-47, Para. 5, Recreation and Aesthetics, Alton Coal Field. In addition to the referenced comment, the following statement should be added to paragraph 1, page 4-83: "Although VRM class ratings would be exceeded during mining, disturbed acreage would meet or exceed the pre-mining VRM Classes following reclamation."

67. Page 4-83, Para. 1. "Mining activities would generate dust, noise, and air pollution, which could degrade recreational values in Bryce Canyon National Park (SU, 1979)."

Comment: See comment Page 4-47, Para. 5, "Mining activities would generate ... "

68. Page 4-83, Para. 1. "Blasting associated with mining activities could damage the delicate erosional features of the park."

Comment: See comment Page 4-47, Para. 5, "Blasting at the mine ... "

69. Page 4-84, Para. 1. The following paragraph should be added to the description of Alton Coal Field impacts:

"Due to the low vegetative productivity of the Alton Coal Field, proper reclamation will have a beneficial land use impact due to improved vegetation management."

Response 89-68

Refer to Response 89-14 regarding this comment.

Response 89-69

Refer to Response 89-14 for a discussion concerning this comment.

Response 89-70

See the revised Recreation and Aesthetics sections in Chapter 4 of the final EIS. After successful reclamation VRM Class III and Class IV objectives would be satisfied. It has not been determined if VRM Class II objectives would be satisfied after reclamation.

Response 89-71

See the revised Recreation and Aesthetics sections in Chapter 4 of the final EIS.

Response 89-72

See the revised Recreation and Aesthetics sections in Chapter 4 of the final EIS.

Comment: See comment Page 4-58, Para. 1.

70. Page 4-87, Table 4-9, Water Resources. "Loss of natural flow in as many as 22 local springs and reduction in the yields of an unknown number of wells and springs in adjacent valleys due to ground water pumping of the Navajo Sandstone aquifer at Alton; and contamination and sedimentation of surface streams due to surface strip mining of coal."

Comment: See comments Page 4-25, Para. 3; Page S-5, Para. 4; Page 4-26, Para. 6; Page 4-25, Para. 6; Page 4-25, Para. 4,5.

71. Page 4-88, Table 4-9, Vegetation/Species of Concern. "Adverse impact to an unknown amount of habitat and numbers of various species of concern in the affected states (Appendix 7) with the construction and operation of project components."

Comment: See comment Page 4-71, Table 4-7.

72. Page 4-88, Table 4-9, Cultural Resources. "Adverse impact to an estimated 259 archaeological sites with the construction of the various project components."

Comment: See comment Page 2-59, Table 2-20.

73. Page 4-88, Table 4-9, Recreation and Aesthetics. "Part of the visual resource as viewed from Bryce Canyon National Park degraded with strip mining activities at the Alton coal fields."

Comment: See comment Page 4-72, Table 4-7, Recreation and Aesthetics.

74. Page 4-89, Table 4-9, Recreation and Aesthetics. "Blasting associated with mining activities in the Alton coal field could alter or destroy the delicate erosional features in Bryce Canyon National Park."

Comment: See comment Page 4-47, Para. 5, "Blasting at the mine ...".

75. Page 4-89, Table 4-9, Land Use. "Change in zoning in Kane and Clark Counties for those areas to be occupied by the Alton coal mine ..."

Comment: See comment Page 4-73, Table 4-7.

Response 89-73

Your concern is addressed in Response 89-55.

Response 89-74

Table 4-9 has been revised to reflect your comment as shown in the final EIS.

Response 89-75

Refer to Response 89-57 concerning your comment.

Response 89-76

Table 4-9 is revised to reflect your concern as shown in the final EIS.

Response 89-77

This comment is discussed in Response 89-14.

Response 89-78

Table 4-9 is revised to reflect your comment as shown in the final EIS.

Response 89-79

As shown in the final EIS, table 4-9 is revised to reflect your comment.

- 80 [76. Page 4-97, Para. 1. "Essentially the major impacts on water resources from mining in the 'Alton West' lease area would be those of disturbance or removal of shallow ground aquifers and associated springs due to surface mining and back-fill replacement, surface water contamination from mine wastes, and increased sedimentation."

Comment: See comments Page 4-25, Para. 3; Page 4-25, Para. 7; Page 4-25, Para. 6; Page 4-25, Para. 4,5.

Response 89-80

The Water Resources section under Alternative 3 in Chapter 4 of the final EIS is revised to reflect your comment.

- 81 [77. Page 4-102, Para. 5. "NPS has expressed concern that re-vegetation of coal-mined lands south of Bryce Canyon National Park could introduce plants not native to the area. Should this occur, it would be possible that these introduced plant species could eventually become established within the Park, thereby altering its natural character."

Comment: See comment Page 4-40, Para. 5.

Response 89-81

Refer to Response 89-47 concerning your comment.

- 82 [78. Page 104, Para. 2. "Unless otherwise specified, where data is incomplete, inconclusive, or simply nonexistent, average densities of 15 sites per section (640 acres), or one site per 5 miles of linear distance (transmission lines, pipelines) is assumed and incorporated in the analysis of impacts."

Comment: See comment Page 3-21, Para. 1, "An average density ... in the Alton area."

Response 89-82

Refer to Response 89-14 concerning this comment.

- 83 [79. Page 4-104, Para. 2. "It is further assumed that 95 percent or more of these sites will be archaeological (rather than historical), and that 75 percent or more will be found to be of National Register caliber under the criteria that they '... have yielded, or may be likely to yield, information important in prehistory ...' (36 CFR, Part 60)."

Comment: See comment Page 4-43, Para. 3, "It is further assumed ...".

Response 89-83

Refer to Response 89-14 concerning this comment.

- 84 [80. Page 4-104, Para. 4. "An estimated 43 sites would be adversely impacted during mining activities on 1,830 acres of mining permit area at Alton. Of the total sites, at least 32 would probably be of National Register caliber."

Comment: See comment Page 3-21, Para. 1, "An average density ... in the Alton area; "Page 4-43, Para. 3, "It is further assumed ...".

Response 89-84

The estimated number of sites adversely impacted during mining activities on 10,154 acres is revised in the Cultural Resources section under Alternative 3 of Chapter 4 in the final EIS to reflect the Museum of Northern Arizona's average site density of one site per 68 acres.

- 85 [81. Page 4-107, Para. 2. "As discussed in Alternative 1, actual mining activities could adversely impact Bryce Canyon National Park. The presence of mining facilities and strip mining activities would alter local visual quality in the area of the Alton West coal fields and would not meet VRM class IV objectives; although the impacts would be less because of the smaller size of the coal mine."

Comment: See comment Page 4-83, Para. 1.

Response 89-85

See the revised Recreation and Aesthetic section in Chapter 4 of the final EIS.

- 86 [82. Page 4-107, Para. 2. "Mining activities would not be directly visible from Yovimpa Point or The Promontory in Bryce Canyon National Park, although dust, air pollutants, and noise could impact the aesthetic and recreational values in the Park (Air Quality section of this alternative)."

Comment: See comment Page 4-47, Para. 5.

Response 89-86

Refer to Response 89-5 for a discussion concerning this comment.

- 87 [83. Page 4-123, Table 4-11, Water Resources. "Contamination and sedimentation of surface streams and reductions in the yields of local shallow ground water wells and springs due to strip mining at Alton coal fields."

Comment: See comments Page 4-25, Para. 6; Page 4-25, Para. 4,5; Page 4-25, Para. 3.

Response 89-87

Table 4-11 is revised to reflect your comment as shown in the final EIS.

- 88 [84. Page 4-124, Table 4-11, Vegetation/Species of Concern. "Adverse impact to an unknown amount of habitat and numbers of various species of concern in the affected states (Appendix 7) with the construction and operation of project components."

Comment: See comment Page 4-71, Table 4-7.

Response 89-88

Refer to Response 89-57 concerning your comment.

- 89 [85. Page 4-125, Table 4-11, Recreation and Aesthetics. "Blasting associated with mining activities in the Alton coal fields could alter or destroy the delicate erosional features in Bryce Canyon National Park."

Comment: See comment Page 4-47, Para. 5, "Blasting at the mine ..."

Response 89-89

Table 4-11 is revised to reflect your comment as shown in the final EIS.

- 90 [86. Page 4-126, Table 4-11, Land Use. "Change in zoning in Kane, Washington and Clark Counties for those areas to be occupied by the Alton coal mine ..."

Comment: See comment Page 4-73, Table 4-7.

Response 89-90

As shown in the final EIS, table 4-11 is revised to reflect your comment.

UTAH INTERNATIONAL INC.

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2 July 1980

Mr. Donald Crane
Office of Surface Mining
Reclamation and Enforcement
Brookes Towers
1020 15th Street
Denver, Colorado 80202

Dear Mr. Crane,

Utah International Inc. holds coal leases in the Alton Coal Field of southern Utah. We understand that the Office of Surface Mining is seeking information to investigate the allegations in a petition to declare an area containing the Alton Coal field as unsuitable for surface mining.

We are vitally concerned that this investigation produce factual and objective information. Utah International Inc. has held these leases since 1963. We have actively marketed the deposit over the years under several development scenarios. Description of mining and reclamation plans and related environmental data have been submitted in connection with these efforts to the appropriate government agency at the time. With the promulgation of the new OSM regulations additional data has been demanded and we are collecting it in order to submit our mine and reclamation plan. This letter describes our current planning efforts and when we anticipate that information could be provided to you.

Air Quality/Visibility

We have collected air quality and meteorology data on the site since February, 1976. As you are aware, we initiated an inter-agency air quality/visibility study in January 1980. Our study plan, prepared by Environmental Research and Technology, Inc. (ERT), was presented to the National Park Service, the Office of Surface Mining, the Bureau of Land Management, and the Environmental Protection Agency. Subsequently, this interagency group has initiated a second independent modeling effort.

We have contracted with ERT to model the visibility effects of the proposed mining and related secondary effects (e.g., increased population) on a number of lines-of-sight provided by the National Park Service. In the interests of sharing similar technical assumptions, we have provided this interagency group with the emission and control factors, the assumed particle

size distribution and color classification, site-specific meteorological data, and an emissions inventory to be used in our model. We would like to stress that this emissions inventory was developed from our preliminary mine plan and may be revised depending on our final mine design. We expect preliminary model results by mid-July. Final model results and a completed report are expected by September 1. This will be forwarded to you.

Visual Impact

In November, 1978, we commissioned Comarc Design Systems, Inc. to prepare a computer-generated viewshed analysis to determine which surface mining areas could be seen from Yovimpa Point. Our original computer tape of 1:24000 USGS digitized topography was provided to the National Park Service Rocky Mountain Regional Automatic Data Processing group in March, 1979 for independent analysis. Our final map indicating which surface mineable areas could be seen from Yovimpa Point was field-checked in September, 1979 and again in May, 1980. This map was provided to the Denver office of the National Park Service on 28 May of this year.

With the assistance of a survey field crew, we have plotted a number of these seen areas on a panoramic photograph supplied by the National Park Service in order to prepare a photosimulation of the viewshed during mining and after reclamation. This information was provided to the National Park Service Denver Office as input to the preparation of a photosimulation for a visitor survey to be conducted this summer in Bryce Canyon. Additional presentations were made to the National Park Service Mining and Minerals Division in San Francisco on 5 June, and to the Bureau of Land Management in Salt Lake City on 10 June.

We have contracted with Wirth Associates, Inc. a landscape architectural firm with considerable experience in visual resource analysis of energy-related projects. In September, 1979, Wirth contacted the Office of Surface Mining, the U. S. Forest Service, the Bureau of Land Management, and the National Park Service to scope visual issues for consideration by our mine and reclamation planners. Wirth Associates is currently assisting us in developing site-specific reclamation designs in visually sensitive areas. We anticipate that study results can be provided to you by 15 September.

Reclaimability of Alton Coal Field

As you are well aware, the BLM has developed improved grazing acreage adjacent to our leases and within view of Bryce Canyon. Our reclamation plan objectives are to continue this pattern of reclamation to improve existing grazing allotments and wildlife habitats, and to meet aesthetic concerns in those areas of the mine within the viewshed of Bryce Canyon.

Several research studies have been conducted since 1976 by the U.S. Forest Service, the Bureau of Land Management, and Utah International Inc. on our Alton Coal Leases to determine the reclaimability of the site. Results to date indicate that both the soils and treated overburden materials are reclaimable.

Early soils, vegetation, and wildlife baseline inventories were prepared in 1974-5 by the SWA Group and published in the Southern Utah Coal Final Environmental Impact Statement, Part 2 (Site Specific Analysis). We are updating these studies to respond to new OSM permit requirements. They include the following:

Soils and Overburden

The updated soils survey and our analysis of overburden materials at Alton indicate that there will be adequate supplies of soil and topsoiling material available for reclamation. Our soils maps will be completed and forwarded to the Office of Surface Mining by 15 July. It is anticipated that further overburden sampling now underway will be completed by 15 September. These results will also be provided to the OSM.

Vegetation

A more detailed vegetation resources baseline inventory was prepared in the fall of 1979. Exclosures and reference areas were installed in May, 1980. Ground truthing of the vegetation baseline map is now underway, and productivity, diversity and cover data will be collected throughout the field season. The vegetation resources map will be provided to you by 15 August. Production data will not be taken until late September.

Wildlife

On 26 June, we met with representatives of the Utah State Division of Oil, Gas and Mining, Utah State Division of Wildlife Resources, and the U.S. Fish and Wildlife Services to collect existing information on the wildlife resources of the Alton Coal Field and to discuss specific concerns of these wildlife agency representatives. (Staff from the OSM and BLM were invited but unable to attend.) Existing information will be supplemented with any additional surveys that may be necessary to develop a wildlife mitigation plan. We will provide all available information to the OSM by 1 September.

Land Use

A land cover and use survey is now underway to determine existing and historical land use. The survey will provide a

basis for determining the post-mining land uses of various sections of the leases. We anticipate that our land use and cover maps will be completed by 15 September. These will be forwarded to you at that time.

Reclamation Test Plots

Data from the reclamation test plots are publicly available from the U. S. Forest Service Range and Shrub Experiment Station in Utah.

Hydrology

Hydrological concerns identified in the petition include the effects of surface mining on the surface and shallow groundwater systems and the effect of pumping for the slurry line on the deeper Navajo aquifer.

We have contracted with D'Appolonia Consulting Engineers, Inc. to conduct the necessary field work to characterize the surface and shallow groundwater. Surface water studies to be conducted during their field effort this summer include: delineation of all surface water bodies, establishment of the flow characteristics in lease area streams, collection of water quality data for these streams, and development of a continuing surface water monitoring program. Field studies addressing the character of the shallow groundwater system that underlies the lease area will deal with both the surficial alluvial and coal seam (Dakota Formation) aquifers. Ten piezometers have been previously installed in the coal seam aquifer during the fall of 1979 and another fifteen to twenty will be installed this summer in both of the above aquifers. Data to be generated from these piezometers include: potentiometric surface maps for both aquifers, definition of hydrodynamic properties for each aquifer, collection of water quality data, description of the hydrogeologic setting within which these aquifers are located, and development of a continuing groundwater monitoring program. We anticipate that the results of this field effort should be finalized by this September.

We have been assessing the availability of water from the deeper Navajo aquifer for several years. Studies conducted by Bingham Engineering in 1979 have indicated that the effects of a withdrawal of about 6000 gallons per minute under the most adverse assumptions will not result in a significant drawdown beyond a distance of four miles from the well area. Under more likely assumptions, the aquifer will be replenished and no effects will be noticeable except in the immediate area of the well field. In any case, no harm will come to local water users from this level of development. Testing as part of a larger term engineering effort to provide additional information on this important subject will be done this summer and we will provide an interim report by late September.

CHRON. FILE

UTAH INTERNATIONAL INC.

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Socioeconomics

A number of socioeconomic studies have been conducted in southern Utah in anticipation of coal development in the region. These include the Five County Association of Governments (AOG) report included in the Southern Utah Coal EIS and the Centaur Associates, Inc. socioeconomic study for the Allen-Warner Valley Energy System Draft EIS. We have reviewed these studies and are collecting additional information to begin planning for community growth resulting from the mine. Additional formal material will be submitted with our mine plan.

Archaeology

Archaeological clearance investigations were conducted by the Museum of Northern Arizona (MNA) prior to exploration drilling in 1974 and 1979. An additional drilling survey was also conducted in 1976-7 by International Learning and Research, Inc. These reports are available through the Utah State Historic Preservation Office.

MNA has recently completed an intensive Class III level inventory of the first five-year mining areas. The majority of the sites consist of lithic scatters and do not include any major dwellings. MNA is currently analyzing the results of their survey and anticipates completing their report before 1 September. The report must be provided to Utah State Historic Preservation Office for their files. With their concurrence, we would also provide the report to the OSM.

We look forward to continued cooperation with the Office of Surface Mining in our efforts to establish factual and objective information during this petition process. Please do not hesitate to contact us should you have any questions.

Yours very truly,

John C. Ferrell

John C. Ferrell
Project Manager
Alton Development

cc: Mr. Mel Schilling
Ms. Barbara Brown, National Park Service
Mr. Gary Wicks, Bureau of Land Management

April 29, 1980

Mr. Morgan Jensen
District Manager
Bureau of Land Management
Cedar City District Office
1579 North Main Street
P. O. Box 724
Cedar City, Utah 84720

Ref: Draft Management Framework Plan Supplement for
the Escalante, Paria and Zion Planning Units

Dear Mr. Jensen:

Utah International Inc. (Utah) is the owner of Federal coal leases in the Alton Coal Field of the Zion planning unit. This letter, and the attached comments, are submitted by Utah in response to the Bureau of Land Management's request for comments on the Bureau's March 14, 1980 draft of the Management Framework Plan for the Escalante, Paria and Zion planning units of the Cedar City District.

The draft plan recognizes that the coal unsuitability criteria have little application to Utah's leased lands in that they cannot be applied to defeat Utah's leasehold rights. The draft plan also recognizes the necessity for awaiting the submission of a mining plan prior to final application of the coal unsuitability criteria at page 13, where it is stated that "review is incomplete in . . . submission and review of mining plans on leased lands." That conclusion is consistent with the Bureau's letter to Utah, dated September 21, 1979, which stated that "no determination will be made on your coal lease area until you have formally submitted the mine plan."

Utah has held its leasehold interests included within the Management Framework Plan planning area which is the subject of this letter for many years, and has expended considerable amounts of

Mr. Morgan Jensen
April 29, 1980
Page Two

money in development work, environmental work and marketing efforts. Accordingly, Utah has made substantial legal and financial commitments which exempt its leaseholds from application of the unsuitability criteria at the planning stage. To designate Utah's existing coal leaseholds as unsuitable would be contrary to Utah's statutory and constitutional rights and could result in a claim by Utah for compensation for the value of its property which could amount to several millions of dollars.

In any event, the BLM planning effort should be directed at the entire planning unit in respect of which the planning effort is being undertaken, and the BLM should not focus upon any particular proposed mining operation which is still in its planning stages and for which there is no operation and reclamation plan detailing the manner in which the proposed mining operation would avoid adverse environmental impacts. Even if the Surface Mining Control and Reclamation Act of 1977 were applicable to Utah's leased lands, the only areas which are required to be designated unsuitable for surface coal mining are those where reclamation is not technologically and economically feasible. Such a determination cannot possibly be made as to any of Utah's leasehold lands until an operation and reclamation plan is submitted.

All other considerations under the Surface Mining Control and Reclamation Act of 1977, as well as BLM's own planning criteria under the Federal Land Policy and Management Act of 1976, if they are applicable at all, are discretionary, and must be weighed against the social and economic benefits that would flow from a project that would involve the lands which are the subject of the planning effort. The weighing process cannot take place without consideration of the operation and reclamation plan, approval of which would be a condition of the right to mine. Utah believes that its operation and reclamation plan will demonstrate that reclamation is feasible, and that there will be no unacceptable environmental impacts incident to Utah's operations.

BLM's multiple use planning approach dictates that no potential use of the public lands (especially a relatively short-term use such as mining) should be foreclosed at the planning stage when the coal lands in question are lands presently under lease. Multiple use principles would dictate that all potential uses of the lands be permitted to the maximum extent practicable. Whether or not Utah's proposed mining activities would be contrary to other important resource values as to suggest that mining should be prohibited must necessarily await the specifics of how the mining operations are to be conducted.

Mr. Morgan Jensen
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Page Three

We note that it is recommended in the Multiple Use section of the draft plan that approximately 1,000 acres of land (containing approximately 30 million tons of coal) not be mined. That recommendation is based solely on general conclusions of a regional nature. Utah believes, and the BLM's own Multiple Use planning approach would seem to dictate, that the BLM should not recommend that any of Utah's lease lands be designated as unsuitable for surface coal mining in the absence of a specific operation and reclamation plan which will supply the site-specific data necessary to a determination of the proposed mining operation's precise impact.

The comments attached to this letter are addressed to individual topics in the draft plan. We strongly urge, however, that the BLM should not make any recommendations regarding unsuitability for surface coal mining at this time. In view of the need to satisfy increasing amounts of the nation's energy requirements from domestic sources, it is vital that any applicable land use planning in coal lease areas proceed upon the fullest possible information base. This information base is being developed, and we believe we will demonstrate that Utah will conduct its proposed mining operations in an environmentally-accepted manner.

Finally, we should observe that Utah's comments set forth above and hereinafter would apply as well to the leasehold lands presently controlled by Nevada Electric Investment Co. (Utah's and Nevada Electric Investment Co.'s coal properties, it is contemplated, will be developed jointly).

Sincerely yours,

JOHN C. FERRELL
Project Manager
Alton Development

Attachments

SPECIFIC COMMENTS SUBMITTED BY UTAH INTERNATIONAL
INC. ON MARCH 14, 1980 DRAFT OF MANAGEMENT FRAME-
WORK PLAN FOR THE ESCALANTE, PARIA AND ZION PLAN-
NING UNITS OF THE CEDAR CITY DISTRICT

1. The draft plan shows that the unsuitability criteria are in-
applicable to Utah's leases.

A. Most of the criteria are inapplicable to Utah's leases.

The following criteria have no application at all to these lands:

1. Specific categories of Federal lands.
2. Federal lands within easements, etc.
4. Wilderness study areas.
5. Class I scenic lands.
6. Interference with scientific studies.
7. National Register sites.
8. Natural Areas and National Natural Landmarks
- 9-15. Threatened or endangered species, eagle, falcon and other habitats.
17. Municipal watersheds.
18. National Resource Water.
20. State proposed criteria.

B. The remaining criteria have insignificant application to
Utah's leases.

No. 3 Cemeteries and rights-of-way.

Utah will not mine within 100 feet of cemeteries, and mining and mine access roads will be conducted and operated under conditions approved by the local governing agency as part of our mining and reclamation plan.

No. 16 Riverine, coastal and special 100-year recurrence
interval flood plains.

No riverine or coastal problems exist, and the Bureau concludes (draft plan, p. 12) that there is insufficient data at present concerning special flood plains within the area. First, a 100-year flood plain standard is not authorized by section 522(b) of the Surface Coal Mining

Control and Reclamation Act. The Act refers not to 100-year flood plains but rather to operations which "will affect natural hazard lands in which operations could substantially endanger life and property, such lands to include areas subject to frequent flooding * * *" (sec. 522(a)(3)(D); emphasis added). The specific standard of "frequent flooding" is expressly incorporated into the unsuitability determination to be made under section 522(b) of the Act.* The substitution of a 100-year flood plain standard is not authorized.

Second, the regulations themselves recognize that Criterion No. 16 does not apply at all to lands in which the operator has made substantial legal and financial commitments prior to January 4, 1977. That is the case here.

Third, Criterion No. 16 by its terms does not apply where mining can be undertaken without substantial threat of loss to people or property, and to the natural and beneficial values of the flood plain on the lease tract and downstream" (43 C.F.R. 3461.1 (p) (1)(2)). That will be shown to be the case when Utah's mine plan is reviewed by the U. S. Geological Survey and the Bureau.

In addition, field reconnaissance conducted by both Utah International Inc. and G. W. Sandberg of the U. S. Geological Survey indicates that most of the lease area streams are ephemeral or intermittent in nature and tend to be deeply incised due to continuing erosional effects. As a result, the areas surrounding the streams are not subject to frequent flooding and stream flows are likely to be contained within the existing stream banks. Further information on the subject will also be available from hydrologic studies being conducted during the summer of 1980. Those studies will include mapping and physical description of all on-site drainage basins and appropriate drainage facilities.

* Section 522(b) requires that the review be conducted "pursuant to the standards set forth in paragraphs (2) and (3) of sub-section (a) of this section * * *".

No. 19 Alluvial valley floors where mining would interrupt, discontinue, or preclude farming, or areas outside of alluvial valley floors where mining would materially damage the water supply of an alluvial valley floor.

At the outset, we wish to point out that Criterion No. 19 goes beyond the statutory authority and standards conferred by section 522(b) of the Act. Instead, these alluvial valley floor criteria appear to have been picked up from the permit approval standards of section 510 of the Act, which standards are, of course, applicable only in connection with a specific mining plan. Moreover, the criterion ignores the specific limitations of section 510(b) (5) which exclude "undeveloped range lands which are not significant to farming on said alluvial valley floors" and "lands * * * that if the farming will be interrupted, discontinued, or precluded is of such small acreage as to be of negligible impact on the farm's agricultural production" (sec. 510(b)(5)(A)). Both exclusions apply to Utah's leased lands.

In addition, we note that the draft plan states that there is insufficient data at this time to determine whether there are alluvial valley floors within the area under review, and this information is expected to be generated through the development of mining and reclamation plans by lease operators and by studies to be initiated by the Bureau.

J. E. Hardaway et. al. (1977)* found no alluvial valley floors in the Alton lease area. We are currently conducting a study which will review the following data sources: (1) mapping of surficial geology (alluvial deposits), (2) potentiometric levels of near-surface waters, (3) soil studies showing presence of soil moisture and mottling, (4) vegetation surveys identifying plant species indicative of subirrigation, and (5) socioeconomic studies addressing the importance of agriculture to the local

* Hardaway, J. E. et. al. (1977), Subirrigated Alluvial Valley Floors in Fifth Symposium on Surface Mining and Reclamation, October 18-20, 1977, Louisville, Kentucky. ICF Report on the Economic Impacts of HR 13950 (1976).

economy. A preliminary review of this data supports the Hardaway determination. While final verification must await the conclusion of the described effort, we nevertheless believe that the final supplement to the Management Framework Plan would be more accurate if it noted that the work performed to date had found no such alluvial valley floors.

2. Multiple use analysis.

The Federal Land Policy and Management Act of 1976 provides that in the development and revision of land use plans, the Secretary of the Interior shall, among other things, "use and observe the principles of multiple use and sustained yield set forth in this and other applicable law" (43 U.S.C. 1712(c) (1)). In its recommendations for planning purposes concerning surface mining under this statute, the draft plan makes a number of general recommendations for inclusion in specific mine plans throughout the planning area. Although Utan's specific mine plan is not completed, we offer our preliminary comments on the recommended inclusions below.

In one respect, the draft plan becomes very specific in that it proposes that surface mining of about 1,000 acres on the Kanab Creek, Thompson Wash, Skutumpah Creek and Meadow Canyon drainages be prohibited entirely (p.20). This recommendation is premature, since it is based on the untested assumption that these creeks, washes and canyons are "major drainages," where mining "must necessarily cause serious problems" (p. 18) and that "once disturbed their hydraulic characteristics could never be restored" (p.19). No basis is provided for those statements, and they seem inconsistent with previous statements, under the unsuitability criteria, that there is insufficient data at this time to determine the existence or non-existence of special flood plains and to make other conclusions with respect to surface coal mining within the area. Moreover, the conclusions are only general observations, which should not be made prior to consideration of a specific mine plan as to our coal lands already under lease from the United States.

Moreover, the draft plan does not identify the basic legal authority, regulations or even criteria that are to be applied in developing the draft recommendations. In order to comply with the full intent of the public participation goals of the Federal Land Policy and Management Act of 1976, we urge the Bureau to fully explain its authority and the review process by which it developed this plan.

The remaining comments are as follows:

MULTIPLE USE ANALYSIS

RANGE MANAGEMENT

The Draft MFP identifies two key issues concerning range management and livestock grazing on the Alton Coal Fields: 1) reduced grazing capacity due to placement of mining facilities (p.15) and 2) altered grazing capacities in certain areas of the lease due to removal of vegetation and alteration of spring water production (p.15) caused by mining activities.

In issue 1), BLM recommends that placement of mining facilities avoid areas which will cause a loss of forage for livestock or at least mitigate this loss. Following mining, all disturbed areas should be reclaimed.

Animal unit months (AUM's) are a function of forage production. Disturbance activities remove or eliminate forage production for livestock. Lost AUM's of grazing capacity due to mining disturbance can have a strong economic impact on local ranchers who have these "affected" grazing allotments. (Livestock grazing is the current primary land use.) The MFP recommendation, that mining facilities be assigned and placed so as to avoid forage resources, is not realistic.

Placement of facilities is largely determined by economic and logistic considerations of the mining operations. These considerations are guided by the location of the coal seams to be mined and which cannot be altered. Such areas to be disturbed include forage resources currently used by livestock in the summer.

We agree with the MFP recommendations that the loss of forage resources for livestock be mitigated and that disturbed areas be reclaimed. To accomplish this, Utah International Inc. plans investigations for the summer of 1980: land use and vegetation inventories. The combination of these studies will allow a detailed assessment of lost livestock forage due to mining activities. Utah International Inc. believes that the present range condition (i.e., production) on undisturbed areas is poor to fair compared with its potential. Therefore, a planned program for revegetation of subsequently disturbed sites can increase the current grazing capacity with proper grazing systems. Mining and subsequent reclaiming in a block design, as in the current mine plan, will minimize the loss of grazeable forage at any one time.

If substantial forage resources are to be lost due to facility design and placement and equally economical designs or sites can reduce this forage loss, action will be taken to mitigate this effect.

The second range management issue raised by the MFP emphasizes the lost AUM's due to forage removal and depletion of production from existing springs.

According to the MFP, loss of AUM's due to mining disturbance is minimal (12% or 244 AUMs) without any improved vegetation management (chaining and reseeding) on other undisturbed allotments in the surrounding area. Such improved vegetation management on undisturbed sites outside the mining area can actually increase the total available AUM's by 73% or 3407 AUM's if performed on all allotments within the Alton Coal Field. Mining and subsequent revegetation in blocks will minimize the total lost AUM's over the 20-year mine life.

Most of the grazeable forage in the Sink Valley grazing allotment will be lost temporarily due to surface mining (loss of 48 AUM's). AUM losses in all other grazing allotments can be offset by vegetation management (i.e., chaining and reseeding). BLM contends that the development of springs in Sink Valley after mining is necessary for livestock.

Sequential mining and reclamation operations will reduce the lost AUM's from any one grazing allotment. At this time, BLM contends that it is impossible to determine the time period for total AUM reduction until the mining and reclamation plans are analyzed.

BLM contends that UII must revegetate areas "to produce the maximum amount of forage as predicted by BLM in the proposed grazing systems," and that topsoils and growth media should be segregated for reclamation.

The MFP's quantitative assessment of reduced AUM's due to mining disturbance cannot be finalized until Utah International Inc.'s vegetation inventories are completed this summer. Under initial evaluation, the grazing capacity figures appears to accurately reflect the poor to fair range condition (and hence forage production) of most of the grazing allotments. This currently low forage production reduces the total impact of any detrimental losses of AUM's when compared to high forage producing areas. It will not be difficult for Utah International Inc. to mitigate these impacts. In fact, it appears easily feasible to revegetate disturbed sites with an increase over the current grazing capacity.

Sink Valley grazing allotment may create a difficulty if the current leasee cannot find grazing elsewhere to offset the 48 AUM's decrease during mining and reclamation. This loss may occur because most of the grazeable land within Sink Valley allotment will be disturbed by mining.

Surface mining in Sink Valley will alter a number of small springs located in the main portion of the valley. These springs, which are the result of local outcropping of Tropic Shale, are generally located at the 6300 foot surface elevation contour. While the exact number of springs to be destroyed should be confirmed, the probable total should lie between 6-10. None of these springs produce more than 6 gpm with most falling in the 1-3 gpm range (Goode, 1964)*.

BLM contends that Utah International Inc. must revegetate areas "to produce the maximum amount of forage as predicted by BLM in the proposed grazing system." Not enough detail is provided in the MFP to adequately evaluate "maximum amount of forage" or the "proposed grazing system."

We will cooperate with the BLM to maintain at least an equal number of available AUM's throughout the life of the mine to offset grazing capacity lost during mining. However, the BLM must maintain responsibility to offset the grazing capacity loss. Special attention must be focused on the Sink Valley grazing allotment if the reduction of AUM's caused by mining activities cannot be offset by improved vegetation management (i.e., chaining and reseeding). Examination of the mine plan and grazing allotment boundaries in conjunction with the results of the 1980 summer vegetation inventory will provide answers to adequately address this claim.

Segregation of topsoil and vegetation growth medium from other spoils is standard Utah International Inc. reclamation/revegetation practice. Chemical analysis of the soils will identify the materials to be separated for revegetation purposes.

Restoration of Sink Valley springs is impractical; rather, where necessary, Utah International Inc. will develop alternative surface water sources (e.g., stock ponds) to replace any spring waters for livestock production during mining operations.

* Goode, H. D., 1964. Reconnaissance of Water Resources of a Part of Western Kane County, Utah. Water-Resources Bulletin 5: Utah Geological and Mineralogical Survey.

WATERSHED

The BLM analysis of multiple use recommendations for the Alton lease area identifies three key water resources issues for which land controls are deemed necessary: 1) subsidence effects due to underground mining beneath major stream drainages (p. 17), 2) erosion and sediment control problems resulting from surface disturbance during mining operations (p. 17), and 3) impairment of local/regional hydrologic balance as a result of aquifer disruption during overburden and coal seam stripping. These issues will be addressed in depth in the mining plan, but several important preliminary comments can be made.

Subsurface mining beneath valleys or drainages currently used for farming could possibly create fissures or depressions, thereby affecting near-surface groundwater levels and infiltration rates. First, the degree of subsidence likely is dependent on the geologic structure of the area to be mined. While this is more probable in unconsolidated valley areas, final analysis of the actual subsidence potential should await the conclusion of on-going studies of lease area geology. Meanwhile, we can make one specific point. Based purely on economic recovery rates, no subsurface mining is currently proposed under any of the major surface drainages in the Alton Coal field. Instead, the bulk of the subsurface mining is scheduled in the eastern block of the lease for the upland areas located between stream channels and in the western block on the eastern edge of Sink Valley and its adjacent uplands. In general, little or no farmland lies beneath these areas and, more importantly, their geologic structure would not lend to active subsidence.

The draft plan states that several possible erosion and sedimentation impacts could arise during mining and include: 1) sediment increases prior to the completion of spoil area reclamation or due to unsuccessful reclamation, 2) heightened sediment yields caused by stream diversion around mined areas or mine pit dewatering, 3) catastrophic increases due to sedimentation dam failure, and 4) general damage to mined stream channels, including increased erosion, decreased recharge, and alteration of downstream water quality and quantity. All of these potential impacts, however, can be avoided by proper mine and reclamation planning. Thus, blanket prohibition prior to mine plan development against mining in certain areas, such as stream channels, is unwarranted.

The current mine and reclamation planning effort for the Alton lease area includes hydrologic and design studies for temporary and permanent stream diversions, sedimentation storage structures,

and stream channel restoration. The recommended erosion control measures proposed in the draft plan are not supported by any such studies. For example, the proposal that detention reservoirs be capable of detaining 50-year stormflows from the mining site is not clearly defined. Its basis is not stated, nor is the effect of its detention on pre-mining sediment transport patterns described. No attempt is made to estimate the probable cost of such a control technique, although this cost could exceed several hundred thousand dollars per reservoir. Utah International Inc. therefore strongly urges the Bureau to refrain from proposing any specific erosion/sediment control measures or land controls, such as a blanket prohibition on mining in major drainages, until such time as our site-specific planning and design studies are complete.

2/4
Disruption of the hydrologic balance within the mined area due to aquifer alteration, mine water discharge, and water supply (e.g., well and spring) destruction will receive intensive study in the coming months. Geohydrologic studies of the mine area aquifer systems will address: near-surface aquifer structure and water levels, structure of coal-bearing Dakota formation, and the hydrodynamic properties of these aquifers. Hydrodynamic testing will include falling head tests in the near-surface alluvium and pump tests in the Dakota formation. The extent of interconnection between these two systems will also be analyzed. This data will be used in assessing how mining will affect these aquifers and the potential for their restoration during reclamation to a level approaching pre-mining conditions. Similarly, quality data from both aquifer systems will be collected and used to define the effects of mine pit discharge on local receiving streams. In keeping with pertinent federal regulations, we will determine the availability of alternative water supply sources and will actively pursue their development where necessary. In short, our hydrology study program for the summer of 1980 will be responsive to the concerns raised by the draft plan and to its recommendations concerning watershed protection.

Our comments on other mitigation measures addressed in the watershed section of the draft MFP supplement follow:

Soil (page 17)

Our mining plan will, as the draft plan suggests, consider impacts on frail watersheds and soils within mining and reclamation plans.

Spoil Piles (page 19)

Because spoil piles are only a temporary phenomena occurring between mining and reclamation, it would not be cost-effective to contour furrow or mechanically treat spoil piles as is

recommended by the draft plan. Most spoil piles are placed at random so that there may not be any runoff following precipitation. Furthermore, because the water quality of the drainage below the disturbed area must be protected, measures such as the creation of sedimentation ponds are taken to reduce the sediment load within the drainage. We therefore see no advantage in contour furrowing or mechanically treating spoil piles.

Reclamation Planning (page 23)

We are in the process of developing a reclamation plan that will assure prompt reestablishment of a productive and stable vegetative cover. A calculation is being run on the availability of sufficient plant growth materials for revegetation. Evaluation of those materials for their suitabilities as a plant medium as well as the management growth and placement of those materials is a part of the reclamation plan.

We therefore feel that the 18 inch figure for minimum thickness of reconstructed soil cannot be established without analysis of moisture penetration and other factors.

During germination, it appears that a mulch may be beneficial. Such a mulch should not contain phytotoxic chemicals, be readily broken down, and, if possible, have a low carbon-nitrogen ratio.

WILDLIFE

The draft BLM states that:

No bald eagle or peregrine falcon (endangered species) exist in the Alton Coal Fields. As to deer, it states that the amount of forage lost will not adversely affect the deer herds because other local sources are available on the coal area.

The plan recommends, however, that in order to cause minimal effect on wildlife, mine facilities be located in areas which result in minimal loss of wildlife habitat, disturbed sites be revegetated with major plant species with mixtures subject to BLM approval and mining locations avoid springs.

Mine facilities are planned for the Bald Knoll area, which, compared to adjacent habitats, has a high deer use (SWA, 1975).

An intensive habitat mitigation program will be employed to draw the deer from the areas of highest disturbance. This program may require:

- 1) Seeding and fertilization of forage sources within adequate protective cover; or
- 2) Minor brush control to stimulate sprouting of browse in strategic locations. At least some of these vegetation management procedures will most likely be performed on areas that will later be disturbed by mining. Loss of these "improved" areas by mining will be offset by revegetation of reclaimed sites, hence minimizing total habitat unsuitable for deer.

Revegetation of disturbed sites at least equal to carrying capacity as pre-disturbed areas can be accomplished by reseeding of major plant species for browse and cover. Special attention must be focused on creating "edge" effects between areas for foraging and protective cover.

The draft plan also refers to loss of rodent and reptile populations because surrounding areas are already at carrying capacity, the loss of 620 AUMs of deer forage, effecting 410 deer on summer range, and destruction of riparian habitat in Thompson and Mill Creek drainages, which provide water and migration corridor cover for deer.

We agree with the draft plan's recommendation that areas should be reclaimed as soon as possible after mining and that revegetation should restore "pre-disturbance" carrying capacity for deer. Initial deer population estimates indicate low to moderate size, therefore, restoration of suitable habitat to meet that level is feasible. We are conducting further investigations to confirm previous wildlife population studies. In addition, the Bureau may be transplanting deer into the area, thus creating higher population levels.

While we agree that native vegetation should be used for revegetation, in special cases where native vegetation does not provide adequate erosion control, we will propose to alter the species mix.

We disagree that mining of riparian areas should be avoided, where that they can be restored should disturbance occur. The Bureau itself notes that vegetation in these two drainages is in very poor condition. It is not typical of riparian areas. Revegetation efforts following mining can improve this. These drainages serve as migration corridors; however, detrimental effects on deer migration can be minimized by 1) mining in blocks to ensure both drainages are not disturbed simultaneously, and 2) habitat mitigation prior to disturbance. We do not feel that these drainages

constitute "major drainages systems of the watershed" as BLM contends.

The draft plan states that revegetation of deer forage will require special seedbed preparation, fertilizer, mulching and irrigation (EMRIA, 1975). Current studies by U. S. Forest Service and Utah International Inc. show that irrigation is not necessary on all areas all the time. Revegetation test plot results show success on a number of soils with and without mulching or fertilizers. Composting or mulching will improve vegetative stands as did fertilization.

Shrubs, grasses and forbs have been successfully seeded or transplanted on the area without irrigation. The research to date suggests that no special seedbed preparation for revegetation is necessary.

RECREATION AND VISUAL RESOURCE MANAGEMENT

ARCHAEOLOGY

A BLM-approved archaeologist is under contract to Utah International Inc. and is conducting a Class IV (100 percent) cultural resource survey on our federal leases. Our preliminary findings indicate that no significant cultural resources exist on the site, and that most of the findings consist of lithic scatters. This is consistent with the recommendation made in the draft MFP supplement.

ORVs

In the interests of public safety, we concur with BLM's recommendation that ORV use be prohibited on active mining areas.

VISUAL RESOURCE MANAGEMENT (VRM)

The draft plan states that all visual classes in the vicinity of the Alton Coal leases would be exceeded during surface mining activities and that currently designated VRM Class II category on about 600 acres would be exceeded during mining. The draft plan recommends that a visual contrast analysis be performed to determine if the proposed reclamation plan would achieve the currently designated VRM Class II limits within 10 years after the cessation of mining. The draft MFP also recommends that surface mining of Class II areas be prohibited if it is demonstrated that pre-mining of Class II contract limits cannot be met 10 years after commencement of reclamation; and that underground coal-mining surface

facilities be prohibited in the foreground-middle-ground zones of currently designated Class II areas unless it can be demonstrated that coal cannot be mined without such facilities.

Utah International Inc. has conducted a preliminary analysis to evaluate the visual concerns associated with mining (and reclamation) of the Alton leases. As discussed in previous meetings with the BLM, our analysis indicates that the VRM Class Map, while useful for making regional level planning decisions, is not yet refined to support site-specific decisions concerning the aesthetic effects associated with active mining and a reclaimed landscape. It is on this basis that we comment on the conclusions and recommendations stated in the draft MFP:

1. We recognize that the landscape ... its characteristic line, form, color and texture ... undergoes substantial modifications during surface mining operations. The draft MFP recognizes this constraint and accepts potential excesses of VRM contrast limits during mining as a reasonable short-term trade-off of the aesthetic value of the land for its mineral potential.

In the interests of minimizing visual impacts during mining, Utah International Inc. will refine the VRM Class Map in order to evaluate those specific components of the landscape contributing most to visual contrast. The mine will be designed to minimize that contrast.

2. As stated in (1), the nature and scale of the landscape will change in those areas during surface disturbance. Active mining areas will average about 300 acres per year on our eastern leases and will range in distance over ten miles to within about five miles from Yovimpa Point. These areas are being precisely defined and will be accurately photosimulated when our final mine plan is developed.

We do not agree that the nature and scale of the reclaimed landscape following surface mining necessarily undergoes significant change to the basic elements in the characteristic landscape. These elements -- line, form, color, and texture -- can be modified back to the desired post-mining state during reclamation just as surely as they are modified during mining. The same earth-moving equipment which removes overburden to expose the coal will be used to restore the approximate original contour of the premined landscape. The desired color and texture of the surface, to be identified from site-specific contrast analyses

using VRM techniques can be achieved by proper selection and patterning of revegetated species.

We recognize that achieving such site-specific VRM objectives is dependent upon successful reclamation as measured by a stable post-mining landform and vegetation community. This issue is discussed in more detail elsewhere in our review of the draft MFP.

3. We question the application of the existing VRM Class Map for site-specific decision-making. Our preliminary evaluation of BLM's existing map indicates that smaller site study units to rate scenic quality will be necessary for site-specific applications, that the distance zones need to consider landscape modifications, and that public input needs to be incorporated into the analysis to evaluate viewer sensitivity.*

We therefore conclude that changes in the boundaries of the existing VRM Class Map are likely to occur, including the 600 acres of land now in the Class II category referenced in the draft MFP supplement. It is Utah International Inc.'s desire to incorporate the necessary revisions to the VRM Class Map with the input of all concerned agencies.

4. The following discussion focuses on the requirement that Class II contrast limits be met within a 10-year time period. We recognize the need to establish a reasonable time-frame within which visual objectives should be achieved on a reclaimed landscape. However, no basis is provided for the proposed planning decision in the draft MFP supplement to set a limit of 10 years. We note that the objectives of a mined land reclamation include "to return the land, concurrently with mining or within a reasonable amount of time thereafter to a stable ecological condition compatible with past, present, and probable future land uses." (Utah State Act, 40-8-12(a)) We suggest that a more reasonable planning approach than setting a 10-year time limit would be to require that visual resource values be formally addressed in a reclamation plan, just as other

* Utah International Inc. understands that the NPS intends to conduct public surveys at Yovimpa Point in June, 1950. This data would prove useful to update the VRM inventory.

environmental criteria (fish and wildlife, hydrology, etc.) must be addressed. The same controls provided in SMCRA that require an operator to demonstrate reclamation success (30 U.S.C. 1269, Section 519, Release of Performance Bond or Deposits) could include visual criteria along with the other required criteria like vegetation productivity, cover, and diversity.

[illegible]

Dear Mr. Wick:

Aside from the gaps in data and information, we are impressed by the impact statement. The proposed project is quite complicated and there are some difficult issues involved. We think you have done a commendable job of zeroing in on the most significant issues and being forthright in your presentation and analysis of these issues. Your effort stands out compared to many ponderous impact statements we've reviewed that have said little.

We are disappointed that the draft EIS does not designate an environmentally-preferred alternative, especially since you made an effort to develop criteria for such a designation in your scoping process. We don't think the data gaps should prevent designating an environmentally-preferred alternative since most of the missing information relates to the severity of the environmental degradation likely to result from the "build" alternatives. Alternatives 5 and 6, conservation and alternative energy sources and "no action", do not involve building coal-fired power plants in the national parks area of southern Utah, and since the analysis in the EIS indicates they are both feasible alternatives, one of them certainly merited the designation of the environmentally-preferred alternative in the draft EIS. Given the effort expended during the scoping process to develop criteria for an environmentally-preferable alternative, we suggest you make such a designation in the final EIS.

As we pointed out in our February 14, 1980 letter to you, Alternative 4 appears to have the potential of being the least environmentally damaging of the "build" alternatives because it does not include the Warner Valley power plant or mining at the Alton coal field. Assuming it could be designed not to violate any air quality standards, our greatest concern with the Allen plant would be its contribution to the regional deterioration of visibility in the national parks area of southern Utah and northern Arizona. We have environmental reservations with Alternative 4.

We find alternatives 1, 2 and 3 to be environmentally unsatisfactory because they pose the potential for significant environmental degradation that could be mitigated with other feasible alternatives. We don't believe strip mining coal next door to a national park and burning it in a power plant located near another national park has been shown to be in our national interest. Rather, we believe that there are much more environmentally acceptable alternatives to the project that do not involve compromising the values of our national parks. In accordance with our responsibilities under section 309 of the Clean Air Act, we would recommend a referral of the matter to the President's Council on Environmental Quality if one of these alternatives were the proposed action.

Thank you for providing us the opportunity to comment on this draft impact statement. Some of the issues we've discussed in this letter are elaborated on in the attached detailed comments. Please feel free to contact us if you have any questions or if you would like to discuss this comment letter. My staff person on this project is Mr. Gary Johnson (FTS 327-4831).

Sincerely yours,

Glenn A. Lucero, Deputy

for Roger L. Williams
Regional Administrator

Environmental Protection Agency, Region 8, Denver, Colorado

Response 90-1
Refer to Response 63-2 concerning this comment.

EPA'S DETAILED COMMENTS ON THE
ALLEN-WARNER VALLEY DRAFT EIS

-2-

Information Gaps

2 In our opinion, the most important information gaps in the EIS involve the proposed mining at the Alton coal field. As we have previously stated, including in our February 14, 1980 letter to you, there has not been an adequate analysis done on the environmental impacts of mining at the Alton coal field. Since alternatives 1, 2 and 3 all involve mining Alton coal, it is essential that an adequate analysis be done on the effects of this mining if any of these three alternatives are to be considered as a possible action. Hopefully, the EIS being prepared by the Office of Surface Mining on its petition decision will adequately analyze the impacts of mining Alton coal. If the OSI impact statement analysis is not adequate, we don't think there would be any possible basis for selecting any of the first three alternatives as an agency preferred alternative or an approvable action.

279 While there will not be a final position on California's need for the project's power by the California Public Utilities Commission until at least December 1980, there appears to be enough information available at this time to indicate that at least portions of the project are unnecessary. As stated in the draft EIS, BLM has verified a need for only 1328 MW compared to the proposed total of 2500 MW. The staff of the California Energy Commission has recommended that a need for only 1682 MW exists for the California utilities compared to the 2090 MW they've requested. Based on cost, scheduling and reliability considerations, the California Public Utilities Commission staff will reportedly recommend that the Alton coal mine, coal slurry lines and Warner Valley power plant be deleted from the project, and that only the Harry Allen plant (sized appropriately to meet air quality standards and receiving its coal by rail from an existing coal source in central Utah or Wyoming) be authorized. It is also reported (San Francisco Sunday Examiner and Chronicle; August 10, 1980) that the CPUC staff will recommend that the Commission require in its order that the California utilities develop accelerated programs for use of alternative energy sources. A study done by the Environmental Defense Fund concludes there is no need for the proposed AMV project because conservation and development of alternative energy sources could supplant it entirely. It appears that a good case has already been made for at least considerably decreasing the size of the project.

Compliance with air quality regulations is another unknown which could not be covered in the draft EIS because the information was not available. Preliminary determinations from EPA on PSD permits for the Allen plant and the Warner Valley plant may not be available for inclusion in your final EIS. Ideally, it would be helpful to have the detailed information required for a PSD permit application included in the environmental impact statement. Unfortunately, in this case some of the information is still being developed by the applicant.

Response 90-2

This comment is addressed in Resonse 22-2.

3 Biological opinions on threatened and endangered species from U.S. Fish and Wildlife Service were also not available at the time the draft EIS was issued. We recommend that you make the results of the analyses by FWS available to the public as soon as you have received them. We also think it is important to make the results of any other analyses that were not included in the draft EIS available to the public as soon as they are completed.

Environmentally Preferred Alternative

4 As discussed in our cover letter, we think BLM should designate an environmentally-preferred alternative in the final EIS. If the environmentally preferred-alternative is not also the agency-preferred alternative, the reasons should be discussed in the EIS. We realize CEQ does not require the designation of environmentally-preferable alternatives until the record of decision is prepared. However, since the very strict time schedule for the NEPA process on this project has limited the public access to preliminary information, we think a special effort should be made to keep the remainder of the process as open, straightforward and useful to the public as possible.

Environmentally Unsatisfactory Alternatives

The EIS discusses a number of significant environmental issues associated with alternatives 1, 2 and 3, including potential air quality violations, visibility reductions, possible threats to several endangered species, and possible detrimental effects to the ground and surface water supplies in the area surrounding the Alton coal field. We believe the impacts associated with these alternatives make them environmentally unsatisfactory.

As we pointed out in our cover letter, we don't believe strip mining coal next door to a national park and burning it in a power plant located near another national park is in our national interest. We also believe that a decision to proceed on the project as it has been proposed could serve to discourage conservation efforts and the use of alternative energy sources. It is the official policy of the State of California to steadily increase the role of conservation and alternative energy sources in its energy mix because California realizes the future health of the state's economy will depend on a decreasing reliance on conventional energy sources. According to the California Energy Commission's 1979 Biennial Report, "... California is already committed to a largely conventional energy future through the 1980's, and will increasingly depend on this future unless dramatic steps are taken to include conservation and alternatives in energy planning." Construction of the AMV project at the proposed size could serve to delay, at a critical time, the implementation of conservation and alternative energy sources in California's energy mix. Since California is leading the nation in promoting conservation and alternative energy sources, such a delay could also affect national efforts in this direction.

Response 90-3

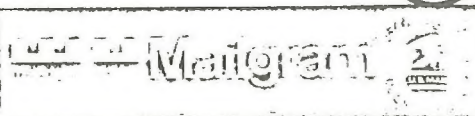
The biological opinion provided by USFWS was not available until October 1980. This opinion is included in Appendix 15 of the final EIS.

Response 90-4

Refer to Response 63-2 concerning this comment.

91

LOS ANGELES AREA CHAMBER OF COMMERCE
424 SOUTH BIXEL ST
LOS ANGELES CA 90017



4-0545515234 08/21/80 ICS IPHNCZ CSP PRVA
2136290655 MSG TDRN LOS ANGELES CA 105 08-21 0443P EST

MORGAN JENSEN, DISTRICT MGR
CEDAR CITY DISTRICT
BUREAU OF LAND MANAGEMENT
PO BOX 724
CEDAR CITY UT 84720

IN COMMENTING ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE ALLEN WARNER VALLEY ENERGY SYSTEM, THE LOS ANGELES AREA CHAMBER OF COMMERCE WISHED TO REGISTER ITS SUPPORT FOR THE DEVELOPMENT OF THIS COAL-BASED SYSTEM BY THE SOUTHERN CALIFORNIA EDISON COMPANY AND OTHER WESTERN ELECTRIC UTILITIES. IT IS AN ESSENTIAL MAJOR SOURCE OF AFFORDABLE ELECTRIC ENERGY FOR THE SOUTHWEST. UNDER SEPARATE COVER WE ARE FORWARDING TO YOU A COPY OF OUR COMMITTEE REPORT TO THE CHAMBER'S BOARD OF DIRECTORS DATED AUGUST 7 1980. SINCERELY

GEORGE F MOODY, PRESIDENT

1545 EST

MSGCOMP MSG

Los Angeles Area Chamber of Commerce

Response 91-1

Your comments are noted and will be considered in the decision making process.

CAROL NELSON
1954 SOUTH 700 EAST
SALT LAKE CITY UT 84105

4-0264115234 05/21/80 ICS IPHNCZ CSP PRVB
8014661109 MSG TDRN SALT LAKE CITY UT 149 08-21 1204P EST

DISTRICT MANAGER CEDAR CITY DISTRICT
BUREAU OF LAND MANAGEMENT
PO BOX 724
CEDAR CITY UT 84720

TOPIC: ALLEN-WARNER VALLEY POWER PROJECT
I WISH TO STRONGLY PROTEST THE STRIP MINING OPERATION PROPOSED NEAR ALTON, UTAH WITHIN THREE MILES OF BRICE CANYON NATIONAL PARK, FOR MANY REASONS:

1. ENDANGERING THE WATER SUPPLY IN KANE COUNTY
2. WOULD CAUSE ACID RAINING THAT WILL BE DAMAGING TO THE ALREADY FRAGILE ENVIRONMENT OF THE AREA AND TO THE PARK FORMATIONS
3. WOULD CAUSE POLLUTION OF THE AIR
4. SPOILS THE VIEW FOR ONE OF THE MOST BEAUTIFUL NATIONAL PARKS
5. ELIMINATING FREE WILDLIFE MIGRATION THROUGH THE AREA AND TO AND FROM BRICE CANYON NATIONAL PARK EXAMPLE THE MOUNTAIN LIONS

PLEASE DON'T ALLOW SUCH A UNIQUELY BEAUTIFUL AREA TO BE DESTROYED EVEN SLIGHTLY THE DESERT AND ITS BEAUTY ARE TOO FRAGILE

CAROL NELSON, MICHAEL NELSON, CHRISTOPHER NELSON VERA FITZGERALD, ELIS FITZGERALD, JEANETTE LONS, ART LONS

1207 EST

MSGCOMP MSG

Carol Nelson, Salt Lake City, Utah

Response 92-1

Your concerns are noted and will be considered in the decision making process.

Response 92-2

Some deer migrations would be disturbed as a result of the Alton coal lease area development. The significance of this disturbance could not be determined but is not expected to be great. The mountain lion is only an occasional user of the area near Bryce Canyon National Park. The development of the Alton coal lease area would cause mountain lions to avoid the leasehold area but would not significantly restrict their movements to and from Bryce Canyon National Park.

TO REPLY BY MAILGRAM, SEE REVERSE SIDE FOR WESTERN UNION'S TOLL - FREE PHONE NUMBERS

92

Route 1, Box C
Hanksville, Utah
84734
August 16, 1980

District Manager Morgan Jensen
Bureau of Land Management
PO Box 724
1579 North Main St.
Cedar City, Utah 84720

Dear Mr. Jensen:

I am writing to you to request that the BLM does not allow the Allen-Warner Valley Power Project to come into existence. The areas in Utah that would be affected are unique and fragile. If the project comes into being they would be ruined forever.

The emission from the Warner Plant would contaminate the area including Zion National Park. For what? To provide electrical power for California. Let the Californians build a nuclear plant in Los Angeles or start conserving their resources for once.

The various strip mining operations would ruin thousands of acres for anything within the foreseeable future. Dust and blasting

would present serious hazards to Bryce Canyon National Park.

Besides the impact of many more people into the area, the slurry pipelines would use an incredible amount of water that the area can ill afford to lose.

Alternate energy sources particularly Conservation are much more viable than another rape of Southern Utah.

I request that you select Alternative 5, The Energy Conservation and Alternative Energy Sources Alternate and that my letter be included in the final EIS.

Sincerely,
Joseph L. Boyle
Joseph L. Boyle

Joseph L. Boyle, Hanksville, Utah

Response 93-1

According to UII, only 1,550 acres of the total 5,250 surface minable acres in the Alton East lease area could be seen from Yovimpa Point in Bryce Canyon National Park. The lease area would be a major landscape intrusion during active mining and during the early stages of reclamation. Mining activities would generate dust and noise, which could reduce the recreational and aesthetic values of Bryce Canyon National Park.

Refer to Response 22-16 and the Recreation and Aesthetics sections of Chapter 4 in the final EIS for further information.

Response 93-2

Refer to Response 76-1 concerning a discussion of this matter.

Utah Audubon Society

P.O. Box 9419
Salt Lake City, Utah 84109

August 19, 1980

District Manager
Bureau of Land Management
Cedar City District Office
P.O. Box 724
Cedar City, Utah 84720

Dear Sir,

The Utah Audubon Society is a Salt Lake City based chapter composed of approximately 750 members. As an organization deeply concerned about the quality of the natural environment we have cautiously reviewed the Allen-Warner Valley Energy System Environmental Impact Statement - DRAFT. After reviewing this draft EIS we congratulate the Bureau of Land Management on the straight-forwardness and objectivity of the document. We do however submit the following comments.

The Utah Chapter of Audubon recommends Alternative 5 - The implementation of a variety of conservation programs and the development of non-conventional energy sources. We believe this alternative to be the least costly, not only in the economical sense, but also in terms of lost tourism and lost benefits to visitors to Bryce and Zion National Parks. This alternative is also least costly in terms of wilderness lost to transmission line corridors and impacts to wildlife.

1 The generation of power from solid waste (Biomass Technology) should definitely be included in the assessment of alternative electrical power sources. The feasibility of Biomass can be answered by contacting entities such as the City of Ames, Iowa. This municipality of 50,000 has their own city-owned solid waste recovery plant which supplies the city-owned power plant with refuse derived fuel.

2 The draft EIS does not cover the effects of Alton Coal Field development. Since the implementation of Alternatives 1, 2 and 3 is dependent on development of this coal, a holistic analysis of impacts resulting from these alternatives cannot be made without assessing the impacts of developing the Alton Coal Field. This unnecessary segmentation of impacts, and the failure of an agency to take a look at the cumulative impacts of an action is in clear violation of the National Environmental Policy Act. The blasting and heavy equipment required to develop the Alton Coal Field would have considerable impacts on Bryce Canyon National Park.

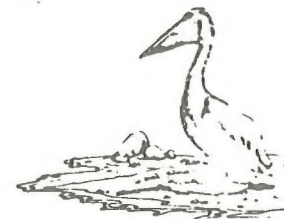
3 The BLM has clouded the public involvement process by deferring identification of a preferred alternative until November. This postponement makes any meaningful comment on the chosen course of action difficult. The most important time for public input is before the Final EIS is written. The effective involvement of the public can be achieved by a supplement to the draft, announcing the preferred alternative, published no later than September 15, 1980. A second public comment period should then be initiated. If the BLM does not have the necessary information to make the decision it should be delayed until adequate information is available. The announcement of a preferred alternative should be followed by a public comment period before the Final EIS is written.

94



Utah Audubon Society

Allen-Warner Valley EIS - page 2



In conclusion, the Draft EIS was a good beginning effort to assess the impacts of the Allen-Warner Valley Energy System. We hope this effort continues in the Final Environmental Impact Statement. Thank you for the opportunity to comment.

Sincerely yours,

Ronald D. Reece

Ronald D. Reece

Member, Board of Directors
Co-Chairman, Lands and Energy Committee

Ronald D. Reece, Utah Audubon Society, Salt Lake City, Utah

Response 94-1

Biomass technology is included in the assessment of Alternative 5 (Energy Conservation and the Development of Alternative Energy Sources). Refer to Chapters 2 and 4 of the final EIS for this discussion.

Response 94-2

The environmental impacts concerning mining development of the Alton coal lease area have been identified in the Southern Utah Petition Evaluation Document (USDI, OSM 1980) and are summarized in the final EIS.

See the Recreation and Aesthetics sections of Chapter 4 in the final EIS for information concerning the mining impacts of blasting and heavy equipment use on Bryce Canyon National Park.

Response 94-3

The agency preferred alternative is identified at the end of Chapter 2 in the final EIS. All comments received regarding the final EIS will be available to the Secretary of the Interior prior to his decision in January 1981.



League of Women Voters of Nevada

P.O. Box 1436
Las Vegas, Nevada 89101
August 13, 1980

Mr. Norman Jansen, District Manager
Bureau of Land Management
1579 North Main Street
Cedar City, Utah 84720

Dear Sir:

This is a joint response from the League of Women Voters of Nevada and the League of Women Voters of the Las Vegas Valley to the Allen-Harner Valley Energy System Draft Environmental Impact Statement issued June 30, 1980.

The LWV appreciates the laudably successful effort of BLM to meet the new requirements for environmental Impact Statements. The document encompasses an enormous amount of material, yet it is readable, redundancy is kept to a minimum, and the major issues are pinpointed.

Our comments will cover 1) those areas in which we find the EIS deficient and 2) general comments and specific corrections.

Deficiencies

- A. The cumulative effect of emissions from the proposed Allen plant when combined with those from the existing Reid Gardner plant located in the same area is not defined in the EIS at several points, but there is no analysis or evaluation of the problems that are involved.

The SO₂ emissions from the existing three units at Reid Gardner plus the tentatively approved fourth unit will come close to violating the 24 hour SO₂ National Ambient Air Quality Standard. There is, therefore, a question of what increment is actually available for the Allen plant. This is particularly important if the Allen plant alone would be likely to violate the standards as is indicated in the EIS.

Any evaluation of the cumulative effects of these two plants should consider the reliability of the pollution control equipment in terms of both the proposed equipment at Allen and the past track record for reliability at the Reid Gardner units. The frequency of breakdown and start up conditions at Reid Gardner should be checked with the Nevada Air Pollution Control Officer at the Division of Environmental Protection in Carson City, Nevada.

- B. Although no NO_x violations are identified at the Allen site, the transport of NO_x into the Las Vegas Valley nonattainment area and the possible interaction of NO_x with other pollutants should be further investigated and evaluated. Recent experience in the Las Vegas Valley indicates that NO_x along with the derivative secondary pollutants can create visibility problems and may also contribute to some high ozone readings recorded at various times and places.

League of Women Voters of Nevada

Response 95-1

Possible cumulative effects of the Reid Gardner and Harry Allen powerplants must be considered by EPA before a PSD permit is issued. EPA will consider reliability of control equipment in making the determination of possible cumulative impacts. Also refer to Response 5-3.

Response 95-2

Refer to Response 5-1 concerning your comment.

- 3 C. The transport of both SO_2 and NO_x into Utah and Colorado areas sensitive to acid rain should be monitored and evaluated for alternatives 1-4.
- 4 D. Although not included in the scoping issues, the impact of the transmission lines associated with the Allen Warner Energy System as they come through the Las Vegas Valley is of concern to local citizens. The transmission lines will be added to an existing corridor which traverses a significant geological formation known as Rainbow Gardens and crosses an area recently designated as a regional wetlands park. Leanne believes that the addition of the Allen Warner lines to the existing Nevada-McCullough corridor should be evaluated in terms of the cumulative effects that may result rather than as a single impact. The IPP transmission lines are scheduled to follow this same route and a gas transmission line is also planned for the area.

Comments and Questions

- 5 A. The Valley of Fire is not a Class I area. Your statement on 1-6 that the State Environmental Commission turned down the redesignation is not a fact. The recommendation regarding Valley of Fire was never formally before the Commission and the Commission has never taken a position on the matter.
- 6 B. The Allen plant will require permits from the Nevada Department of Conservation and Natural Resources' Division of Environmental Protection. Under Nevada Revised Statutes (NRS 445.546.4) regulation of fossil fuel-fired electric steam generating plants in the hands of the state.
- 7 C. Will the Allen-Warner PSD permits be processed under the pre-August, 1977 requirements or under those in force after passage of the Clean Air Act Amendments of 1977? The answer would have a bearing on the number of pollutants monitored by Nevada Power Company.
- 8 D. The lack of a strong, aggressive energy conservation program in the Las Vegas and St. George service areas undercuts the validity of the claim that more megawatts are needed. Results in California show that strong energy conservation efforts can realistically curb energy demand without overturning lifestyles or creating significant economic disruptions. With the evident reluctance of the Utah and Nevada utilities to pursue a strong conservation course, we must assume that addition of the new Allen-Warner megawatts will continue the self-justifying exercise of new generating capacity creating new growth which, without conservation programs, results in new energy demands. This seems heedless of the need to conserve our resources and use them wisely.
- 9 E. No decisions regarding the Alton coal field or the availability of that coal should be made until adequate information is available regarding the impacts on the area's groundwater resources. With rail transport available and central Utah coal having a lower sulphur content, the Leanne would prefer to see this supply alternative chosen over the slurry line from Alton.

Response 95-3

Several networks with sites in the potentially affected areas have or are being established to monitor acid deposition. Although no stations would be monitoring specifically to determine impacts from the AWW Energy System, any increase in acidity over the present levels would be studied, and increases, if any, of acid deposition from the AWW project might be detected. Also refer to response 51-1 concerning this matter.

Response 95-4

The Recreation and Aesthetics section in Chapters 3 and 4 are revised in the final EIS as a result of your comment and include information concerning Rainbow Gardens and Wetlands Park.

Response 95-5

The Air Quality sections of Chapter 4 are revised to reflect this comment in the final EIS.

Response 95-6

As a result of your comment, the Issues and Areas of Controversy, Compliance with Air Quality Regulations section of the Summary in the final EIS is revised to include this information.

Response 95-7

As indicated in the Air Quality sections of Chapter 4 in the final EIS, the PSD permits will be processed under the requirements of the Clean Air Act as amended in August 1977 and subsequent regulations issued by EPA as required by this act.

Response 95-8

The EIS discusses the existence of energy conservation programs in the participating utilities' service areas in the Existing and Projected Energy Sources Mix section of Chapter 3. The development of programs of energy conservation and alternative energy sources is further discussed for each of the service areas in the description of Alternative 5 in Chapter 2 of the final EIS.

Response 95-9

Refer to responses 6-4 and 12-4 for a discussion of these comments.

- 10 F. Have the impacts upon the salinity of the Colorado River been sufficiently investigated? If the Warner Valley water project is built, who will eventually be responsible for any increased salinity contributed to the Colorado River?

League supports the mitigating measures proposed to protect the Virgin River flow and the woundfin habitat.

- 11 G. League strongly supports all efforts to protect visibility in our National Parks. The vistas in both Zion and Bryce Canyon are breathtaking and irreplaceable. They should not be sacrificed. Stringent mitigation measures must be imposed and implemented to protect the National Park areas.

- 12 H. The MX Missile WS seems to be stalled, but the cumulative impacts of the Allen- Warner Project and the placement of the main MX base at either Pine Bluffs or Apache Springs areas north of the Allen plant must be considered before final decisions are made.

- 13 I. League would like to be included on your list of Organizations and Special Interest Groups since we have participated in both scoping sessions and had an interest in the Allen-Warner project from its inception.

The League cannot support any of the alternatives presented until the cumulative impacts of the Reid Gardner and Allen plants are known and until the water questions concerning the Allen area are resolved.

Yours truly,

Betty Ann Jones

Betty Ann Jones
President

League of Women Voters of the Las Vegas Valley

Mary Forrester

Mary Forrester
President

League of Women Voters
of Nevada

Response 95-10

The Bloomington, Utah to Lake Mead, Nevada section of Water Resources, Alternative 1, Chapter 4 in the final EIS indicates that salinity concentrations of the Virgin River would be increased by an unknown amount and below Littlefield, Arizona (including the Colorado River at Lake Mead). See this section for further discussion.

Response 95-11

Refer to the Standard Operating Procedures and Mitigating Measures required by BLM, Appendix 4 for the Applicants' Proposed Design and Operating Procedures, and Appendix 6 for Standard Operating Procedures in the final EIS for a discussion of your concern.

Response 95-12

The draft EIS on the MX missile had not been released at the time of preparation of this final EIS, and therefore the impacts relating to the project have not been identified. Because of this and because the specific basing modes and locations have not been identified, cumulative impacts of the two projects are not identified in the final EIS.

Response 95-13

The name of your organization is included on the List of Special Interest Groups to reflect your comments.

August 18, 1980

District Manager
Cedar City District
Bureau of Land Management
P.O. BOX 724
Cedar City, Utah 84720

It is pleasing to find the inclusion of Alternative 5 as a viable scenario in this Environmental Impact Statement. Conservation of energy could increase the self-sufficiency of rural homes (vs. centralized power dependence), increase solar awareness in all communities, and increase pride in owners of energy efficient homes. As utility rates rise, the reluctance of individuals "to change their lifestyles to accommodate the conservation and load management of energy" (4-147) will change to competition for energy efficient homes just as the oil crisis has changed the reluctant use of small cars in the automobile industry. California must accept the challenge of the CEC "to use conservation and alternative energy resources to the maximum extent feasible." (3-44)

The "possible related changes in current lifestyles" (S-16) and "rearrangement of personal schedules and conveniences" (4-146) associated with development of alternative energy sources are nothing when compared to the cultural shock and degradation of human life associated with boom town growth in Southern Utah, Northern Arizona towns, even with the aid of front-end money for community services. More stress should also be placed on the adverse affects of increased off-road vehicle use (4wd, dunebuggy, and motorcycle), accumulations of litter along roadsides, overcrowding of once favorite campsites and picnic areas, and the return of the not-so-nice Western atmosphere of alcohol dominated mining towns.

I am also glad to see the concern for air quality in the southwestern National Parks, and the concern for air quality in Class II areas. Few people live under the plume of emissions from the Navajo Generating Station near Page, Arizona, yet the pollution there is very real. Residents of the town of Page sit quietly watching the smoke as it rises from the stacks, flattens, then trails off silently eastward over Indian hogans to encircle Navajo Mountain. (With relocation money many Navajos have moved over to this side of the plume.) Visitors to the Lake Powell Region can quickly identify the point-source of the areas smog as they travel toward Page. Let us make sure the BACT promises for future power plants are kept.

Sincerely Concerned,

Joe Prickett

Joe Prickett
P.O. Box 2456
Page, AZ 86040

Joe Prickett, Page, Arizona

Response 96-1

Although these specific concerns are not quantifiable, potential negative impacts to the quality of life are discussed in the Quality of Life sections in Socioeconomics, Alternative 1 in Chapter 4 of the final EIS.

1591 Gabriel Dr.
Las Vegas, NV 89109
August 18, 1980

Mr. Morgan Zorn
District Manager
Bureau of Land Management
P.O. Box 724
1579 No. Main St.
Cedar City, Utah, 84720

Sir:

I would like to comment on the draft EIS for the Allen-Warner Valley Energy System. Having followed the A-W proposal throughout the 1970s, I think you have done a commendable job in both the screening process and in condensing the myriad of documents into a reasonably readable and informative report.

My primary concern with the EIS is the lack of any adequate analysis and evaluation of the cumulative effects of the SO₂ emissions from the existing and the tentatively approved Reed Run Generating units and the proposed Allen facility's emissions. The problem is recognized in several places, but then

Ann A. Zorn, Las Vegas, Nevada

Response 97-1

These concerns about air quality are addressed in Responses 5-3 and 95-1.

The Red Green facility will, for all practical purposes, use up the available SO_2 increment and be pushing violation of the National Ambient Air Quality Standard for 24 hour SO_2 exposure when the fourth unit comes on line in 1983. Is there any room for the proposed Allen plant?

You easily see ~~that~~^{the} Nurse Power
Comproy's intent to change the pollution
control equipment at the Westing Red
Gardner units so that they will meet a
more stringent standard (.275 lbs per million
Btu input) ^{(as of 1983 requires 40% cut in his -}
^{also 2,} than the New Source Performance Standard.
Have you considered this factor concerning
how much of the existing encumbrance will actually
be available to Allen?

3 [The other factor which concerns me with regard to the Red Grouse units is a less than desirable record for population control eggplant reliability - No matter how fine the design, if the eggplant

Response 97-2

Possible cumulative impacts with Reid Gardner must be considered before issuance by EPA of a PSD permit for the Harry Allen powerplant. Pollution control equipment at Reid Gardner and resulting emission rates will be considered by EPA.

Response 97-3

Refer to Response 5-3 for a discussion on this air quality matter.

-2-

doesn't do its job + results in a high percentage of breakdown + stunting conditions. The emissions are not going to be controlled effectively. Have you checked with Nevada: this. Env. Protection (Wendy Samson) over this? I would suggest the Air Res. + Wildlife Samson's request for monitoring of these elements in the vicinity of the plants. A build up in trace elements could eventually find its way back to the food chain or the river.

Both the meteorological information for the Allen & Warner Valley ^{provide critical} measurements ~~are~~ that both ground & high level wind patterns and speeds in L.A.W. Both the Las Vegas Valley and the park areas in Utah could be negatively affected by transport of SO_2 & NO_x .

Street Bros will make no decisions on the Athol Coal field and the use of the slurry has renter the questions concerning the aspects of the water use on the groundwater in the area are resolved - We have precious little water in this region to have it wasted or contaminated.

Response 97-4

Certain trace elements would require monitoring under recently promulgated PSD regulations (August 7, 1980) and State of Nevada regulations. Refer to the Air Quality, Trace Elements section in Chapter 4 of the final EIS, which has been amended.

Response 97-5

Meteorological data that was used in the air quality analysis included both surface and upper wind and temperature measurements. The potential air quality impacts on Zion and Bryce Canyon National Parks are presented in the Air Quality sections of Chapter 4 in the final EIS.

Response 97-6

Response 76-1 addresses these comments about water.

1158 East 2700 South
Salt Lake City, Utah 84106
Aug 20, 1980

Mr. Morgan Jensen, District Manager, BLM
PO Box 724
1579 North Main St
Cedar City, Utah 84720

Dear Mr. Jensen,

This letter is being written to ask you to help preserve the resources of southwestern Utah. Of particular concern is the pumping of water outside of the state for the coal-slurry lines and the adverse effect of the lines themselves on the ecology of the region. The air pollution is another concern. Clean air is a priceless heritage.

Please include this letter in the environmental statement on the Allan-Warner Valley Energy System.

Thank you

Sincerely,
Elizabeth Bottcher M.D.

Elizabeth Bottcher, M.D., Salt Lake City, Utah

Response 98-1

Your views are noted and will be considered in the decision making process.

The impacts of the MX missile deployment must also come into the picture. Hopefully their draft EIS will be available before your decisions must be made.

I have some problem with accepting even the power needed figure you present. The lack of an ongoing, full fledged energy conservation program in St. George & the minimal effort in Las Vegas means that with a good faith conservation effort, those numbers could have been lower. In addition, Nevada Power has put in about 500 MW of peaking power in the last few years which should relieve the situation to some extent.

Yours truly,
Ann S. Zorn

Response 97-7

Refer to discussion of Alternative 5 (Energy Conservation and the Development of Alternative Energy Sources) in Chapters 2, 3, and 4 of the final EIS. These discussions present analyses of what could be achieved in each of the participating utilities' service areas should such an alternative be implemented.

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899 N. Wilmet Rd. Suite D-5
Tucson, Arizona 85711

August 19, 1980

Re:
Allen Warner Valley Energy System
Draft Environmental Statement
August 10, 1980
Page two

Mr. Morgan Jensen
District Manager
Bureau of Land Management
P. O. Box 724
1570 North Main Street
Cedar City, Utah 84720

Dear Mr. Jensen:

We have reviewed the Allen Warner Valley Energy System Draft Environmental Statement and would like to make these comments on the options therein.

Our understanding is that 95% of the electricity generated from this system would be exported from Utah. At risk is the integrity of our nation's finest National Parks, and the beauty of the most striking region in the West.

Conservation and cogeneration could easily supply more than the maximum amount of power to be realized by this project. Furthermore, the California Energy Commission has already recommended elimination of the Alton coal fields, slurry lines and the Warner Valley Plant from the system. We would agree that this only makes good sense. For that reason we support Alternative 5 - The Energy Conservation and Alternate Energy Sources Alternative. This would provide a greater amount of energy at less cost to both the consumer and our natural heritage.

This summer we spent our vacation in northern Arizona and southern Utah. We visited the north rim of Grand Canyon, the Vermillion Cliffs, a number of areas on the Arizona Strip, Zion National Park and Bryce Canyon National Park. A highlight of our trip came near its end, when, after visiting a number of the interesting geologic features of the Southwest, we stood on Yovimpa Point and saw all that we had seen in a panorama before us. There are very few vistas in the United States which offer either the grandeur or the educational significance of Yovimpa Point. This would be destroyed forever if coal were to be stripped from the Alton coalfields, almost immediately below. Such disturbance only several miles from the Point would be a horrible blight which we find impossible to justify. In addition, the activities associated with coal mining would undoubtedly obscure the visibility to a very large extent, essentially destroying the unique values here.

During our stay at magnificent Zion National Park we were disturbed to notice that the air quality appeared already slightly deteriorated. The operation of a Warner Valley Plant would add to this deterioration in a major way, we believe. The splendor of this Park can only be appreciated if you can see its majesty clearly, unobscured by an insidious haze.

Also disturbing to us regarding the proposed system is the possibility that the fragile formations in Bryce Canyon National Park could be weakened or even toppled by blasting operations in Alton coalfields. It doesn't seem possible that we could seriously consider an energy project that could bear such consequences, particularly when a number of viable alternatives exist.

Finally, this energy project would require almost 10,000 acre-feet per year of groundwater from a region which is semi-arid and upon which numerous ranchers depend for livelihood. This draw on the aquifer would most certainly affect the springs on which they depend, and the potential for recharging the aquifer, given the disturbance caused by the coal mining, is an unknown at this time. The Warner Valley Project would require diversion of the Virgin River, adversely impacting habitat for the Virgin River chub and roundfin minnow and probably much more.

All in all, we can find no justification for the Allen-Warner Valley Energy System. We can support only Alternative 5-conservation and alternative sources - and believe that no amount of megawatts can be worth the sacrifice of these southern Utah natural resources.

Sincerely Yours,

Linda L. Lewis

C. John Lewis, M. D.

Linda and John Lewis, Tucson, Arizona

Response 99-1

Studies conducted as a result of the OSM draft Southern Utah Petition Evaluation Document (USDI, 1980) indicate that blasting will have no effect on delicate erosional features of Bryce Canyon National Park. Refer to Response 22-16 and the revised text in the Recreation and Aesthetics section of Chapter 4 in the final EIS.

Response 99-2

Refer to the updated Ground Water Pumping for Coal Slurry section under Alternative 1, Chapter 4 in the final EIS for a discussion concerning your comment.

Response 99-3

Your comment concerning the roundfin minnow and roundtail chub is considered in the final EIS. Refer to Appendix 15 for an opinion from USFWS regarding this matter.

August 20, 1980

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District Manager
Cedar City District
Bureau of Land Management

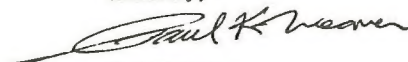
Dear Sirs:

Since I was unable to attend the public hearings held in St. George, etc. concerning the draft the EIS on the Allen Warner Valley application, I would like to make comment via this letter.

I have lived in St. George most of my life. After going away to school and getting a Masters degree in microbiology, I made a decision to return and work in St. George even though I could make twice the amount in wages by living elsewhere in a larger metropolitan area. The reasons I returned are:
1. The wholesome people of high moral character found here. 2. A clean environment with clean air due to the lack of industrial and large city traffic pollutants. 3. The scenic quality of the area. 4. The smaller town atmosphere of St. George and the surrounding area. I believe that if the application is granted all of the above will be affected.

If power can be obtained from an alternate source such as Utah Power and Light even though at at some what higher cost, I would prefer to do so rather than suffer the social and environmental impacts that would obviously occur. It bothers me to produce power for outside concerns in an area as scenic as ours. There are few persons who have spent as much time as I have backpacking and hiking in the back country of Zion National Park, country which I think is some of the most beautiful in the United States. I don't think this is the place for large powerplants. For these reasons I would recommend that alternative 5 be adopted. It would seem to me that before areas such as St. George put in application for additional power and power plants that they adopt conservation measures such as demand meters, etc.

Sincerely,



Paul Weaver

Paul Weaver, St. George, Utah

Response 100-1

Your views are noted and will be considered in the decision making process.

CS

Salt River ProjectWATER \leftrightarrow POWER

BOX 1980 PHOENIX, ARIZONA 85001

August 20, 1980

TELEPHONE 273-5900

Mr. Morgan Jensen, District Manager
Cedar City District
Bureau of Land Management
P. O. Box 724
Cedar City, Utah 84720

Dear Mr. Jensen:

We appreciate the opportunity to comment on the draft environmental impact statement (EIS) prepared by the Bureau of Land Management, Cedar City District and Utah State Office, on the proposed Allen-Warner Valley Energy System in Utah, Arizona, Nevada and California. In general, we find this draft EIS to be well researched, well organized and well written. We are, however, compelled to express serious reservations concerning the treatment of visibility in the air quality sections of this statement.

Before outlining our concerns, an introduction to the Salt River Project Agricultural Improvement and Power District (SRP) is in order. SRP, a political subdivision of the State of Arizona, provides electrical power to some 330,000 residential, industrial, commercial and agricultural consumers in and around Phoenix and other portions of Central Arizona. In 1979, SRP had a total generating capacity of approximately 2,900 megawatts (MW) produced by coal, oil and gas-fired steam electric plants; combustion turbine; combined cycle; hydro-electric and pumped storage facilities. SRP is the operating agent for the Navajo Generating Station, a 2,250 MW coal-fired power plant located near Page, Arizona, and the Coronado Generating Station, located near St. Johns, Arizona, comprised of an operating 350 MW unit with two additional 350 MW units under construction. SRP is also part owner of the Mohave, Four Corners, Craig and Hayden coal-fired generating stations.

With respect to the treatment of visibility in the Allen-Warner Valley draft EIS, we would first of all like to point out the casual or imprecise use of terminology and phraseology. We note, for example, that terms such as "visibility," "visibility impairment," "visual intrusion," "visibility impact," "vista" and "plume blight" are used without clear delineation of their meanings as applied within this report. In fact, it is observed that the thirteen page glossary appended to this draft EIS includes no visibility related terminology. As those involved in the area of visibility can well attest, there is considerable discussion concerning the meanings to be attached to such terminology from a scientific as well as a regulatory standpoint. Consequently, the validity and significance of discussions of visibility matters in this draft EIS are exceedingly difficult to assess. This difficulty is further compounded in that discussions of plume impacts on visibility are replete with vague, imprecise or highly qualified phraseology. Two relevant examples from the report will serve to illustrate this point:

Salt River Project, Phoenix, Arizona

Response 101-1

Because of the many uncertainties regarding the frequency of occurrence of meteorological conditions and atmospheric chemistry in the plume environment, precise quantification of frequency, extent, time of occurrence, and duration of impairment is not possible.

The visibility analyses used different terminologies because the studies were performed by several different agencies or firms. BLM has amended the Visibility sections of the final EIS to obtain more consistency and has added definitions of visibility related terms to the glossary.

- a) "On infrequent occasions when necessary wind conditions for transporting the plume between an observer in the Palute Primitive Area and distant vistas would be coupled with stable meteorological conditions at plume level visual impairment might be perceptible, with ambient visual range as low as 60 to 75 miles."
(pg. 4-14, in reference to Harry Allen Powerplant)
- b) "If stable conditions occur with wind flowing from south-southwest at low wind speed, it would be possible that the plume from the powerplant may be visible from some points in the park."
(pg. 4-15, in reference to Warner Valley Powerplant)

In light of the fact that plume impacts on visibility are to be evaluated with reference to frequency, extent, time of occurrence, intensity and duration of impairment (see pg. 4-23), we fail to understand how statements such as those cited above can be considered meaningful.

Also, we strenuously object to inclusion of the photographic simulations (Figures 4-1 and 4-2) of possible proposed powerplant plume impacts on visibility in this environmental impact statement. Given the effect that those photographic simulations have on those viewing them, despite the myriad simplifying assumptions, uncertainties, inaccuracies and unknowns inherent in the application of this technique, the inclusion of such material is inappropriate and totally unacceptable. Our objections, which are detailed below, relate to the specific simulated photographs included in this draft EIS as well as to the visibility model from which they are derived.

First of all, it is stated in the report that the simulations were included in order to provide a meaningful representation of the potential visibility impacts of the proposed project (pg. 4-15). The validity of this characterization, however, is totally and irrefutably negated by the following information given in the draft EIS relative to the simulations: a) the frequency of occurrence of meteorological conditions assumed in modeling plume transport is not known (pg. 4-23); b) the base photographs were taken in spring while the simulations assumed meteorological conditions most characteristic of fall (pg. A11-1); c) it was assumed that the powerplant plume was unaffected by the intervening complex terrain (pg. A11-2); d) the meteorological conditions which prevailed on the days the photographs were taken are not likely to be the same as those assumed in the visibility simulation (pg. A11-2); and e) the background atmospheric particulate matter loading associated with the base photographs is unknown (pg. A11-2). Given the fundamental importance of meteorology and intervening complex terrain on plume transport, and given the fundamental importance of background conditions and frequency and duration of plume impacts in evaluating visibility impairment, we submit that these simulations can thus in no sense whatsoever be considered "meaningful representations."

Response 101-2

While we acknowledge that the frequency of occurrence of impacts is important in determining significance of impacts, the frequency of occurrence of a specific set of atmospheric conditions in the plume environment is rarely if ever known. However, this does not mean that an attempt to evaluate impacts should not be done. Regarding parts b, d, and e of your comment, Appendix 12 states that the sun angle, which was appropriately simulated in the base photograph, has a more significant effect on the plume blight simulation than would other factors such as seasons, meteorological conditions, and background atmospheric particulate matter loading at the time the base photograph was taken. Regarding part d of your comment, Appendix 12 has been amended to say that the plume is assumed to not impact the intervening terrain, rather than not be affected by it. Appendix 12 discusses that this is an appropriate assumption when the air upwind of the terrain stagnates, causing greater plume rise and the subsequent passing of the plume above the terrain.

Mr. Morgan Jensen
Page 3
August 20, 1980

Mr. Morgan Jensen
Page 4
August 20, 1980

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3 In addition to the problems outlined above with respect to this specific application of visibility modeling, it must be stressed that the use of such models to assess potential impairment is not justified at this time. The current state of the art of visibility modeling has recently been reviewed in a background document prepared in conjunction with the proposed visibility regulation of the U.S. Environmental Protection Agency (i.e., Latimer et al, 1978, The Development of Mathematical Models for the Prediction of Anthropogenic Visibility Impairment, EPA-450/3-78-110 a, b, and c, Systems Applications, Inc., San Rafael, California). Among the theoretical shortcomings of visibility models revealed in this document are: a) the use of a Gaussian formulation to characterize plume diffusion, which is totally inappropriate in complex terrain such as that which characterizes the area under consideration in the draft EIS, and which has been well documented; b) the simplistic treatment of chemical reactions and transformations, particularly with respect to complex processes such as sulfate and nitrate formation, and the problem of entrainment of background species of unknown concentrations in the area of atmospheric chemistry; and c) the neglect of aerosol absorption, the weak treatment of multiple scattering and the simplistic assumption of an homogenous plume in the area of atmospheric optics. Further, it must be pointed out that no visibility model has been validated to date, partly due to the lack of relevant data. All simulations of physical processes must be applied to real data for verification prior to being used in a routine manner. It therefore follows that the use of such models, particularly one which has not been presented in the scientific literature or otherwise subjected to peer review (i.e., the Los Alamos Scientific Laboratory visibility model), is patently unacceptable in environmental impact statements or similar documents at this time.

4 As a final related point, even if we were to assume that visibility impairment could be perfectly modeled, it would not necessarily follow that the photographic simulation technique applied in this draft EIS would provide a "meaningful representation" of that impairment. As noted in the EPA background document cited above (Latimer et al, 1978, pg. 138) in reference to the LASL technique:

"It is difficult to transfer information from the original film to the final produced photograph without introducing errors. In other words, a quantitative measure of the color fidelity of the process is not possible at present."

In summary, while we find the draft EIS on the proposed Allen-Warner Valley Energy System to be a generally well researched, well organized and well written document, we also find that the treatment of visibility in the air quality sections of this statement cannot be characterized in such positive terms. We have noted the casual use of visibility-related terminology and the use of vague, imprecise or highly qualified phrasing in the characterization of possible visibility impairment. We have also strenuously objected to the inclusion of photographic simulations of potential visibility impacts of the proposed project.

We wish to again express our appreciation for the opportunity to comment on this document.

Sincerely,

Gary L. Powell

Gary L. Powell
Environmental Services Department

rsk

xc: P. S. Bhardwaja
A. Q. Colton
D. W. Moon
D. H. Phillips

Response 101-3

Your concerns are addressed in Response 88-2.

Response 101-4

Your comment is noted. In Appendix 12 of the final EIS, a technical discussion of a comparison of an actual plume with a computer simulation of the plume is presented.

Petition from Salt Lake City, Utah

Response 102-1

The views of the concerned citizens represented in this letter will be considered in the decision making process. Numerous public hearings (one in Salt Lake City, two in southern Utah, one in Las Vegas, and one in California) were held to gather testimony concerning the draft AMV EIS. These hearings were preceded by an official notice in the Federal Register and by news releases sent to several radio stations and newspapers in the affected area. All readable names and addresses are included in the AMV mailing list to reflect this concern.

MR. JENSEN --

There are many concerned citizens opposed to the exploitation of the beautiful and unique to the world desert lands of southern Utah!

In less than one week all these signatures were collected. Had we known sooner there would certainly be many-fold more. We consider it unfortunate and unfair that such an important issue was not more fully brought before the public's attention. Most of the people signing these petitions know nothing or very little about this proposition.

We would very much appreciate any and all information concerning decisions, hearings etc. on this issue and all other such industrious endeavors. Please send to the return address. THANK YOU

P.S. Some of the addresses do not have city and state, all such are residents of the state of Utah, & mostly S.E.

Are you aware of the coal burning and strip mining project proposed for Southern Utah? Do you want strip mining 5 miles from Bryce and an enormous coal burning plant 20 miles from Zion? This plant would require great amounts of scarce water, invariably pollute the air, create a 62 acre tailings pond, 4295 acres of fenced off area, 250 miles of slurry piping. Much of the power would be used in California.

You can help preserve this unique and peaceful land!

We the undersigned are opposed to the Allen-Warner (energy) Valley System. FLEET PLANT name and address.

name	address	name	address
1. PHILIP ECKHART	850 E. 300 So. SLC	11. David Padin	603 E 2nd St #6 SLC
2. David Pruthers	235 E. Felsyville	12. Thomas Clayton	2920 S. 800 W. Mtn
3. Susan Schwartz	715 S. Street SLC	13. NALDO VAZZA	2559 LAKE ST. SLC
4. Jay Lyman	589 3rd Ave. SLC	14. STANLEY L. JOHNSON	4321 So. 4th St. SLC
5. RANDI PROSEN	4313 200 W. SLC	15. Amelia English	962 E. 1st St. SLC
6. George Narkos	2260 S. 800 E. SLC	16. Amelia English	128 2nd St. SLC
7. Daniel Lopez	2260 S. 800 E. SLC	17. Brian Sikes	60 Richmond Hill SLC
8. Bill Slika	1513 1st St. SLC	18. PAGES TIER	" " " "
9. Lucia Taylor	510 E. 1st St. SLC	19. Kingham	150 South 9th East
10. Clara Smith	603 E 2nd St #6 SLC	20. Tim R. C. C. C.	139 W. 1st St. SLC
11. David Padin	603 E 2nd St #6 SLC	21. ERIC PAUL KINSEY	1104 E 3rd St SLC
12. Thomas Clayton	2920 S. 800 W. Mtn	22. ISABELLE RICHARD	22 Avenue Des Miroirs SLC
13. NALDO VAZZA	2559 LAKE ST. SLC	23.	

Are you aware of the coal burning and strip mining project proposed for Southern Utah? Do you want strip mining 5 miles from Bryce and an enormous coal burning plant 20 miles from Zion? This plant would require great amounts of scarce water, invariably pollute the air, create a 62 acre tailings pond, 4295 acres of fenced off area, 250 miles of slurry piping. Much of the power would be used in California.

You can help preserve this unique and peaceful land!

We the undersigned are opposed to the Allen-Warner (energy) Valley System. FLEET PLANT name and address.

name	address	name	address
1. Preston Truman	1321 E. 4th St. SLC	11. Rebecca Jameson	3000 S. 900 E. SLC
2. Monte Knight	5110 E. 1st St. SLC	12. E. J. Johnson	1000 S. 10th St. SLC
3. Lawrence Farrel	22 H. St. SLC	13. Rick Heath	864 East 5th St. SLC
4. J. J. Farrel	1033 E. 1st St. SLC	14. EDWARD HUNT	510 E. 1st St. SLC
5. J. J. Farrel	1033 E. 1st St. SLC	15. Beth A. Chamberlain	1376 S. 1st St. SLC
6. J. J. Farrel	1033 E. 1st St. SLC	16. Jimmy Miklavic	154 1st St. SLC
7. J. J. Farrel	1033 E. 1st St. SLC	17. Jane M. Smith	1148 So. 6th St. SLC
8. J. J. Farrel	1033 E. 1st St. SLC	18. Mollie Kelce	583 So. 10th St. SLC
9. J. J. Farrel	1033 E. 1st St. SLC	19. Paul Smith	956 1st St. SLC
10. J. J. Farrel	1033 E. 1st St. SLC	20. Steven Nelson	9595 E. 1st St. SLC
11. Rebecca Jameson	3000 S. 900 E. SLC	21. MARSHALL RALPH	1241 S. 3rd E. SLC
12. E. J. Johnson	1000 S. 10th St. SLC	22. Robin Bullock	4828 Canyon Cir SLC
13. Rick Heath	864 East 5th St. SLC	23. J. J. Farrel	1033 E. 1st St. SLC
14. EDWARD HUNT	510 E. 1st St. SLC	24. Charles M. Hards	1328 E. 6th St. SLC
15. Beth A. Chamberlain	1376 S. 1st St. SLC	25. Carol Ann Markland	1328 E. 6th St. SLC
16. Jimmy Miklavic	154 1st St. SLC	26. Val Rogers	1533 1st St. SLC
17. Jane M. Smith	1148 So. 6th St. SLC		
18. Mollie Kelce	583 So. 10th St. SLC		
19. Paul Smith	956 1st St. SLC		
20. Steven Nelson	9595 E. 1st St. SLC		
21. MARSHALL RALPH	1241 S. 3rd E. SLC		
22. Robin Bullock	4828 Canyon Cir SLC		
23. J. J. Farrel	1033 E. 1st St. SLC		

Are you aware of the coal burning and strip mining project proposed for Southern Utah? Do you want strip mining 5 miles from Bryce and an enormous coal burning plant 20 miles from Zion? This plant would require great amounts of scarce water, invariably pollute the air, create a 62 acre tailings pond, 4295 acres of fenced off area, 250 miles of slurry pipeline. Much of the power would be used in California.

You can help preserve this unique and peaceful land! We the undersigned are opposed to the Allen-Warner (energy) Valley System. PLEASE PRINT name and address.

name	address	name	address
1. Susan Clark	1087 1st St.	1. Mollison Golafshani	S.L.C. Ut.
2. Peter Clark	823 Princeton	2. Kelly Baatsen	420 Robert Hook
3. P. J. Dole	1772 E. 15th St.		
4. J. J. Dole	1515 1st St.		
5. K. J. Dole	143 D Street		
6. Chris Larson	533 S. 300 E		
7. Mark Pigg	815 E. Elgin Ave.		
8. James Kumeo	1226 E. 3rd St.		
9. David H. S.	1090 E. 12th St.		
10. Paul H. S.	2222 S. 1000 E.		
11. Jane Peller	1722 S. 1000 E.		
12. J. L. K. K.	2050 W. Belmont		
13. Marc F. Vaneuch	837 E. 300 S.		
14. Pam Ward	#87		
15. Anne Pellillo	" "		
16. Karen Wiedemann	" "		
17. Susan H. S.	" "		
18. Ann A. Stiles	164 McLaughlin		
19. Suzi Z. Z.	1772 E. 15th St.		
20. Elizabeth S.	1037 E. 1st St.		
21. Mike Rob	167 McLaughlin		
22. John H. S.	305 Douglas St.		
23. Barbara Hards	100 S. 1st St.		

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name	address	name	address
1. Tami R. Greenwalt	1111	24. Caryl R. Jensen	4071 St. Andrews Drive
2. Erickson M. S.	1300	25. S. S. A. P. Jensen	1021 E. 1st St.
3. Dianne Virky	1111	26. John H. S.	1111 C. St.
4. Steven T. M.	144 P. H. S.	27. REX FLINOR	329 5th Ave. SLC UT 84103
5. Carol S.	1111		
6. Kathleen C.	1111		
7. M. S.	968 P. H. S.		
8. Scott C.	465 H. S.		
9. Don Winkler	2010 W. H. S.		
10. P. H. S.	1111 E. S.		
11. C. A. Clark	924 Windsor St.		
12. Susan G.	271 H. S.		
13. C. A. Clark	1111 H. S.		
14. Annique M.	936 1st St.		
15. K. H. S.	933 2nd Ave.		
16. Dennis J. Q.	Golden Colo.		
17. Olga Dunn	12 W. C. H. S.		
18. Michael W. S.	Box 87, Idaho Co.		
19. Diana S.	1111 E. S.		
20. Victoria B.	1111 E. S.		
21. S. H. S.	1111 E. S.		
22. Janie S.	1111 E. S.		
23. Kenneth D. R.	424 1st Ave.		

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We the undersigned are opposed to the Allen-Warner (energy) Valley System. PLEASE PRINT name and address.

name	address	name	address
1. Bob D. Smith	176 S. 400 E.	28. Richard S. Carter	1634 S. 1000 E. SLC 84103
2. John C. Smith	1189 G. St.	29. Miraa Johanne Neill	744 E. 300 S. SLC 84102
3. Paul T. Williams	1141 E. 4270	30. Rugs Hullett	92 Baker Hall
4. Miraa Johanne Neill	53 E. 650 S.	31. Madan Chandra	1017 1st St. SLC 84103
5. W. Campbell	2149 S. W. 1st St.	32. Alex & John Baxter	40 "4" St.
6. Peter Spales	828 Princeton	33. John Baxter	SLC 84103
7. Mark Hennings	149 S. 1490	34. Prince K. Wilson	1075 1st Ave. SLC 84103
8. Barbara Paulson	176 S. 1100 East #5	35. Pam Davis	4770 Cherry St. SLC 84103
9. Irvin R. Smith	223 H. St. SLC 84103	36. Milton Braselton	1087 1st Ave. SLC 84103
10. Dora Berry	1037 Belmont Ave. SLC 84103	37. Thomas K. Dwyer	1243 E. SOUTH Temple
11. Tom Minkin	31 "9"	38. LAURA HORVATH	1227 Glenview St. SLC 84103
12. Bill Landell	4086 Monarch 84117	39. C. Laire & Bottom	158 2nd Ave. SLC 84103
13. R. D. Holladay	1044 O. St. SLC 84103	40. John C. Phillips	239 E. S. Temple SLC 84103
14. Phil Vin	1200 E. 100 S.	41. Peter Twitchell	201 "Y" St. SLC 84103
15. Rube Richmann	376 E. 300 S. 84103	42. Shirley Hager	201 "Y" St. SLC 84103
16. MARNA COX	186 R St. 84103	43. Janet Bruemann	744 E. 2600 St. SLC 84103
17. Jan. Parker	560 S. 5500 W. Hager 84103	44. Lucy Newman	235 Park St. SLC 84103
18. Julie Fuenten	712 2nd Ave. SLC 84103	45. Jay Sessions	2074 Michigan Ave. SLC 84103
19. Margaret Arent	817 E. 1st St. SLC 84103	46. Meredith Simmons	1347 N. 1000 St. SLC 84103
20. Leslie Ruffy	825 3rd Ave. #3, SLC 84103	47. David S. Thompson	8545 4000 St. SLC 84103
21. Spencer Williams	1710 W. 1st St. SLC 84103	48. David S. Thompson	1084 2nd Ave. SLC 84103
22. The Dinkler	1340 S. 5th St. SLC 84103		
23. Pat Dinkler	" " " "		
48. David R. F. D.	54E		

Are you aware of the coal burning and strip mining project proposed for Southern Utah? Do you want strip mining 5 miles from Bryce and an enormous coal burning plant 20 miles from Zion? This plant would require great amounts of scarce water, invariably pollute the air, create a 62 acre tailings pond, 4295 acres of fenced off area, 250 miles of slurry pipelining. Much of the power would be used in California.

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We the undersigned are opposed to the Allen-Warner (energy) Valley System. PLEASE PRINT name and address.

name	address	name	address
1. Jamie B. Rine	533 Colorado St. SLC	28. Annique Mord	966 13th St. SLC
2. Joe F. Gustafson	1492 Glenview SLC	29. Jay Gibbs	3045 S. 9th St. SLC
3. Jay Gibbs	3045 S. 9th St. SLC	30. Robert Smith	1422 Glenview SLC
4. Larry K. B. Smith	1422 Glenview SLC	31. Robert Smith	1422 Glenview SLC
5. Lauren Whitman	2253 Park City	32. Robert Smith	1422 Glenview SLC
6. Robert Smith	1422 Glenview SLC	33. Robert Smith	1422 Glenview SLC
7. Jana R. Ross	62 K St. #1 SLC	34. Robert Smith	1422 Glenview SLC
8. Orlin Smith	1422 Glenview SLC	35. Robert Smith	1422 Glenview SLC
9. Kim T. Smith	1422 Glenview SLC	36. Robert Smith	1422 Glenview SLC
10. Michael D. O'Neil	1422 Glenview SLC	37. Robert Smith	1422 Glenview SLC
11. Nancy Gilchrist	318 Park St. SLC	38. Robert Smith	1422 Glenview SLC
12. Dale Burt	318 Park St. SLC	39. Robert Smith	1422 Glenview SLC
13. Margaret E.	620 5th Ave. SLC	40. Robert Smith	1422 Glenview SLC
14. Monica Kimball	126 E. 1st St. SLC	41. Robert Smith	1422 Glenview SLC
15. Alice Kimball	426 E. 1st St. SLC	42. Robert Smith	1422 Glenview SLC
16. Bob Brown	632 E. 350 S. SLC	43. Robert Smith	1422 Glenview SLC
17. Mitchell R. Smith	1422 Glenview SLC	44. Robert Smith	1422 Glenview SLC
18. Barry C. Schell	2015 Park St. SLC	45. Robert Smith	1422 Glenview SLC
19. Deane Hager	1260 E. 2nd St. SLC	46. Robert Smith	1422 Glenview SLC
20. K. M. Hager	1260 E. 2nd St. SLC	47. Robert Smith	1422 Glenview SLC
21. John D. Hager	1260 E. 2nd St. SLC	48. Robert Smith	1422 Glenview SLC
22. Lori Powell	1422 Glenview SLC		
23. Tyla Riddle	306 1st St. SLC		



Southwest Resource Council

Jane Whalen
P. O. Box 1182 • 635-4804
Hurricane, Utah 84737

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COMMENTS ON THE BUREAU OF LAND MANAGEMENT'S
DRAFT ENVIRONMENTAL IMPACT STATEMENT ON THE
ALLEN-WARNER VALLEY ENERGY SYSTEM

298

1 [The Allen Warner Valley Energy System Environmental Impact Statement should determine whether or not alternatives considered in it and decisions based on it will achieve the policy goals of N.E.P.A.

Alternatives that include a slurry line will not meet the N.E.P.A. regulations. The cumulative data gaps and unresolved issues are still mounting.

2 [The issue of submitting new data was discussed at a meeting in Kanab with Washington Officials. Joan Pavenport stated, new information will be accepted and considered. The final E.I.S. should address the Robert Cordova, report, Groundwater Conditions in the Upper Virgin and Kanab Creek Basins, Utah, with emphasis on the Navajo Sandstone. Open File Report 80-524, 1980.

Southwest Resources Council, Hurricane, Utah

Response 103-1

The final EIS is organized in accordance with the CEQ regulations on implementing the National Environmental Policy Act of 1970 as amended. The prescribed organization provides a comparative analysis of each alternative so that the reader may determine whether or not a particular alternative meets the policy goals of NEPA.

Response 103-2

The Cordova report is addressed in the final EIS to reflect your comment. See the Ground Water Pumping for Coal Slurry section under Alternative 1 of Chapter 4.

3 In the Draft EIS, U.I.I. well site locations on page 2-7, figure 2-4, also on page 4-27. Should show all of Utah International applications for groundwater development that are applied for. The applications are in good standing and are in the public record in the state water engineers office in Salt Lake City, also in Cedar City. The map is in Water Resources Bulletin 8, Second Reconnaissance of Water Resources in Western Kane County, Utah, by Harry D. Goode. The proposed determination of Water Rights in the Kanab Creek and Johnson, Code No 85, Book 1, List (Encl) Utah International Inc. application numbers 36044, 36045, 36047, 36049, 36050. This information is of major concern and should not be overlooked in the final E.I.S.

In the Draft E.I.S on page 4-29 it is stated that for springs in Kanab Creek in the vicinity of Big Lake might be affected if cone of depression extends beyond 9 miles from the well field. For the Kanab city wells in Three lakes Canyon to be affected, the Cone of depression would have to extend beyond 12 miles. It should be added to the final E.I.S that Utah International has filed for application 36047 which would overlie Kanab City wells, and these well would be directly affected.

4 The Final E.I.S should address the fact that Sylvan Johnson of Johnson Canyon has a well located only $4\frac{1}{2}$ miles from Bald Knoll, WUC 101. Sylvan and other ranchers have protests filed with the state engineer that will grant them a right to a protest he ring before the state can grant the water rights. (Encl)

5 The Final E.I.S should address the Colorado River Treaty, under Sec 15, Utah State Statute par.B. It states that water can be used to generate electrical power but has to be subservient to agricultural and domestic use. As the water is exported across state lines this law is in effect and it would take a federal court decision to amend it when challenged in court.

Response 103-3

Refer to figure 4-8, Pending Utah International, Inc. Ground Water Applications Before the Utah Division of Water Rights which identifies all of UII's pending water applications. Application A36044(21) is the only one presently under consideration by the Utah State Engineer.

Response 103-4

Refer to the revised Role of the Utah State Engineer section under Alternative 1 of Chapter 4 in the final EIS.

Response 103-5

Refer to Response 74-1 for a discussion of this concern.

6 The Final E.I.S. should address Utah State Law H.B. 106 Sec. 73-2-8-1979. It states that the State Engineer shall evaluate and make public the advantages to the state of Utah and its citizens of exporting water. The Final E.I.S. should include the condition of the state, and list the benefits for all Utahans.

7 The water in the Navajo Sandstone is providing numerous towns with agricultural and domestic water. Hatch City has a spring and 5 wells in the Navajo Sandstone. Alton and Fredonia also get their water from this area. When you consider that the E. Port of the Virgin River could be affected in the long term, Glendale, Orderville and Long Valley will have to be studied as well. The Final E.I.S. should address this important issue and will have to consider this area a watershed, vital to area residents.

8 Is there an agreement when Utah International will stop pumping ground water?

9 What effect will AWT have on tourism, should be addressed in the Final E.I.S. Tourism keeps our economy moving in Southern Utah. Travel and Tourism is Utah's 2nd largest industry and 3rd nationwide. Each year non-residents travelers spend \$500 million enjoying Utah, and we residents spend another \$100 million in the state. That generates 45,000 JOBS and \$2 million annually in TAX REVENUE to Utah, making us 10th among the states most dependent on tourism.

It would seem to be a poor management decision. When private company's can use public lands and public resources for personal gains.

10 The Final E.I.S. should address that the Clark County Advanced Wastewater Treatment Plant does not meet the specified performance requirements. A lawsuit has been filed on May 7, 1980 by Frank Briscoe Company before U.S. District Judge Harry Claiborne alleging inadequate engineering.

11 Is this project in the public's best interest? It will be more costly to area residents because the majority are on fixed incomes. We believe that the issues at stake should be clearly identified.

INFLATION, high interest rates and building costs of a new system can double or triple the final cost of AWT.

Response 103-6

Utah State H.B. 106, Sec. 73-2-8 of the Utah Code states that the Utah "State Engineer is here authorized and empowered to receive and grant applications to appropriate water from any source in Utah." The timing of the State Engineer's assessment of benefits is beyond the responsibility of BLM.

Response 103-7

Refer to the Ground Water Pumping for Coal Slurry section under Alternative 1 of Chapter 4 in the final EIS for a discussion of results of several recent studies and pumping simulations in the Alton area.

Response 103-8

Water rights can be granted by the Utah State Engineer for a fixed time period. Only one of the present UII applications (Application Number 55089 for well drilling) is for a fixed time frame.

Response 103-9

The Recreation and Aesthetics sections of Chapter 4 are revised in the final EIS to reflect your comment on the energy system's potential impact on tourism in Utah.

Response 103-10

A lawsuit was filed alleging that specified performance requirements of the AWT plant were not established in accordance with Section 303 of the Federal Water Pollution Control Act as amended in 1972. A consent agreement between the plaintiff and the defendants has been reached that sets the interim specified performance requirements at a level that would not affect the AWT project.

Response 103-11

While the available statistics do not indicate that most area residents are on fixed incomes, rapid expansion in the area would be likely to generate inflationary pressures which would be detrimental to those who are. The other concerns are contained in the Socioeconomics section under Alternative 1 in Chapter 4 of the final EIS.

The utilities would lead us to believe that the AMV will solve all our problems. But, in reality it will compound our problems that are now occurring. The project will create a boom town effect, then leave us with a town to try to rebuild again.

- 12 The Social Economic effects have been glossed over in the Draft E.I.S. The Final E.I.S. should address the problems that Washington County Schools are having with overcrowding. All the local police forces are very small. The sewer system in Hurricane, and most of the surrounding small towns are being pushed past their limits.

We believe that Southern Utah residents can meet its energy needs at the lowest possible overall cost to the electric consumer by participating with Utah Power and Light.

- 13 What is the cost comparison between the cost of power from Utah Power and Light supplying the power and the cost of AMV supplying power?

- 14 Will the AMV take our dependence off imported oil? The oil that AMV will be replacing is the heavy thick oil that is produced within the U.S. specifically for use in power plants. The imported oil is light thin oil that is used for other purposes.

I request that my letter be included in the final environmental statement and decision making process for AMV.

Response 103-12

These concerns are addressed in the Southern Utah and Southern Nevada Regions section of Chapter 3, the Socioeconomics section under Alternative 1 in Chapter 4, and Appendixes 11 and 17 in the final EIS.

Response 103-13

Project proponents have contended that the cost per kWh to the consumer would be less with the AMV project than if power would be purchased from UP&L. However, such conclusions are necessarily speculative because no such arrangements have been negotiated. The Public Utilities Commission would have to rule on this matter, and construction and fuel supply costs would have to be recalculated in light of rising interest rates, etc.

Response 103-14

Your comment is discussed in the revised Purpose and Need section of Chapter 1 in the final EIS.

IN THE OFFICE OF THE STATE ENGINEER OF THE STATE OF UTAH

In the Matter of Applications
36044 to 36050 by Utah Construction
and Mining Company to appropriate
water

P R O T E S T

STATE OF UTAH)
County of Kane) SS

W. LAMAR JOHNSON, being first duly sworn and as a protest
to the above numbered applications, deposes and says:

1. That protestant is a resident of Kanab, Utah and holds
a valid and subsisting Application No. 32346 for an irrigation well
in Section 26, Township 42 South, Range 5 West, S. L. M.

2. That the well contemplated in application 32346 of
the protestant has been drilled and water is being used therefrom to
irrigation farming land of protestant in Sections 26 and 35, Township
42 South, Range 5 West and Section 2, Township 43 South, Range 5 West,
S. L. B. & M. and said irrigation is now the source and supply of
irrigation water for the farm.

3. That the applications of the applicant contemplate
the appropriation of a great quantity of water at locations adjoining
the well and farm of protestant and also up the canyon to the north,
thus intercepting the flow into the same underground basin which is
the source of water for protestant's well; that the great quantity
of water sought by the applicant will severely deplete or completely
appropriate the underground basin and thus either dry up or greatly
diminish the flow of protestant's well and thus adversely affect prior
existing rights.

WHEREFORE Protestant prays that the applications of the
applicant be rejected, but if approved, adequate safeguards be imposed
to protect protestant's prior rights.

Subscribed and sworn to this 13 day of August, 1964.

My Comm. Exp.

See - 1966

W. Lamar Johnson
Thomas H. Hoyer
Notary Public

104



OFFICE OF
Kane County Commission

KANAB, UTAH 84741

August 18, 1980

MR. MORGAN JENSEN
DISTRICT MANAGER
BUREAU OF LAND MANAGEMENT
P. O. Box 724
1579 North Main Street
Cedar City, Utah

Dear Mr. Jensen:

Enclosed please find the comments of the Board of Commissioners of Kane County relative to the Allen-Warner Valley Energy System Environmental Impact Statement, Draft.

We appreciate the opportunity to review, research and respond to the alternatives that you have prepared for consideration.

Sincerely yours,

KANE COUNTY COMMISSION

Bob Russell,
Chairman

ALLEN-WARNER VALLEY ENERGY SYSTEM

DRAFT
ENVIRONMENTAL IMPACT STATEMENT

RESPONSE

BY

KANE COUNTY
BOARD OF COUNTY COMMISSIONERS

Kanab, Utah

August 22, 1980

BUREAU OF LAND MANAGEMENT
ENVIRONMENTAL IMPACT STATEMENT DRAFT

ALLEN-WARNER VALLEY ENERGY SYSTEM
KANE COUNTY COMMISSION RESPONSE:

INTRODUCTION:

After a careful scrutiny of the data contained in the Draft Statement, prepared and presented by the Bureau of Land Management, the Kane County Commission still has several questions regarding various aspects of the project. We shall present these. We shall raise some objections to part of the format as used by the Bureau. Finally, we will offer our alternative choice with some modification to the proposal written into the draft statement.

This is the first of the many Environmental Impact or Assessment Reports or Statements that have been required by the federal land policy agencies since February of this year that we have had sufficient time to review the entire draft, research it and respond without the push of other statements coming due at or about the same time. We appreciate the consideration afforded to us to have adequate time to reflect on the report and its consequences.

I. UNANSWERED QUESTIONS:

The Kane County Board of Commissioners, regardless of most of the alternatives offered would need additional information relative to the socio-economic impacts of the Warner Valley Project.

A. The tax base situation should be reviewed. According to the statement, the annual tax revenues from the Kane County components of the project would be \$2,014,600.

How was this figure arrived at? What is the real property that is being taxed? What is the time frame on the taxing of this property?...will the taxing be for the life of the project or just during construction?

Does this figure constitute the entire tax for the county-- that is, the county, school district and communities as well?

B. There are questions relative to the Federal royalties. The report indicated that \$790,000 would be coming to the county depending upon the coal tonnage recovered each year.

What impacts would these federal royalties to the county have on Payments-in-lieu-of-taxes? Would these funds come to the county or to the State of Utah for Community Impact Funds?

Kane County Commission, Kanab, Utah

Response 104-1

This figure is based upon the estimated total value of the real property of the project components within the county (i.e., mine, coal preparation plant, slurryline, etc.). As with all other property taxes, it is presumed that the taxing would commence at the time of valuation and continue through the life of the project. Since the project is predominantly situated in unincorporated portions of the county, it is assumed that the tax would apply the same as all such "unincorporated" properties in the county.

Response 104-2

Payments in lieu of taxes to the county depend, primarily, on the acres of Federal ownership within the county, which would not change because the mine area represents a lease, not a transfer of ownership. Therefore, coal royalties would not affect "in-lieu" monies. Royalties are portioned out to various funds. The \$790,000 cited in the text represents a little over 50 percent of the entire royalty per year and is dedicated to the reclamation fund which would come back to the county. In addition, some \$52,000 per year in royalties would go directly toward the county highways.

C. The population increase inherent in this type of project could be catastrophic unless there was a reasonable length of time for planning and development; proper funding for the planning; and front-end funds for proper and adequate development. With reference to population, we have yet to receive a firm figure.

What is the time line on development and maintenance of the project? What is the time reference factor for development? What is the overlap in population between construction and maintenance and coal retrieval?

Where will the people be living? What are the demographic profiles for the construction workers, the maintenance teams and the coal miners?

According to some figures that we have seen, the new sewer system that is being installed in Long Valley will be inadequate to handle the influx of construction, maintenance and mining crews and their families. Is this an accurate assessment? Will we have to work to develop additional sewage facilities?

How will the water be developed for this influx of new people? Will any portions of the developed water from Utah International be diverted for the benefit of the communities?

Will Washington County accede to a Inter-County Special Service District to allow part of the tax-base coming from the Warner Valley Power Plant to be used to offset the continuing cost factors of other socio-economic impacts generated by the total project--police, health, education and other people-needs?

Will Utah International and the power companies agree to the prepayment of sales tax to provide for the front-end needs generated by the project?

D. The Office of Surface Mining, the Bureau of Land Management and others have indicated that deep hydrology studies shall not be undertaken. Will these tests be made?

If these tests are made, who will make them and will they be monitored by independent entities to guarantee a true picture of the underground water situation? Without these tests, how is it possible for Kane County to assess the water situation for our people?

Why is there a greater push for the slurry line than for a cooperative type of agreement with other industries that could use a rail transport system?

What will the cone of depression be with pumping?

Response 104-3

A specific time schedule relating to the AWV project has not been developed at this time. Preliminary estimates indicate that the first generator at the Warner Valley powerplant would be operational by mid-1986, while the fourth (final) generator at the Harry Allen powerplant would not be operational before 1989.

Response 104-4

Project proponents anticipate minimal overlap between construction and operational work forces (i.e., less than 1 year). It is anticipated that construction work forces would reach a peak of approximately 350 to 400 workers in the Kanab-Alton area for a period of less than 2 years and would then be reduced to around 50 workers for the pipeline on an operational basis. The proponents project that for the strip mine phase, total work force would stabilize at around 650 to 700 workers within 10 years of the beginning of the project. (Source: NPC AWV Energy System, System Overview, Vol. 1, 1975. p. 57-5.)

Response 104-5

For distributions of projected population increases, see the revised table 1 of Appendix 17 in the final EIS.

Response 104-6

Complete mine plans have not been submitted by UII; therefore, it is not possible to generate accurate demographic profiles. In such instances, NEPA provides for the application of worst case analysis, which would assume that construction crews would be non-homogenous with local populations. It is assumed, however, that over the long term, operation and maintenance personnel would become assimilated into the communities in which they choose to reside and that conflicts would be alleviated.

Response 104-7

The Long Valley sewage system would be inadequate to accommodate the full anticipated influx of population into the county. As such, additional facilities would have to be developed. Please refer to Appendix 17 and the Services section, Socioeconomics, Alternative 1 of Chapter 4 for detailed figures and discussions.

Response 104-8

There are no known specific proposals for the development of additional culinary water sources for Kane County. UII has not indicated any plans to divert water from the Bald Knoll well field for community uses.

Response 104-9

To date the Washington County officials have indicated no desire to enter into such an arrangement with Kane County.

Response 104-10

No such arrangements have been formalized to date.

Response 104-11

See Ground Water Pumping for Coal Slurry and Role of the Utah State Engineer sections under Alternative 1 of Chapter 4 in the final EIS. These sections discuss UII's present aquifer testing program and monitoring by the Utah State water engineer. Additional information is available upon request through the Utah State water area engineer in Cedar City.

Response 104-12

The use of a slurry pipeline to transport coal from the Alton coal lease area was prepared by the applicants, and is included in Alternatives 1 and 2. Also refer to the Summary of the final EIS and Response 12-5.

Response 104-13

Your comment is addressed in the Ground Water Pumping for Coal Slurry section, Water Resources under Alternative 1 of Chapter 4 in the final EIS.

II. FORMAT OBJECTIONS:

* At one point in time, the Kane County Commission seriously questioned the cost factor inherent in these reports. We applauded when we heard that there was to be a restriction as to size on the Environmental Impact Statements and the Environmental Assessment Reports. However, we have consistently noticed since the first of the inundation of these reports in February that the federal land policy agencies have reduced the size but not the cost of these reports.

14 [We question the necessity and efficacy of inclusion throughout all of these reports of colored photographs--actual and simulated. We respectfully submit that the point to be made could be made equally well by a series of black and white photographs with commentary. We feel that this use of colored photographs on the level that they have been used in the various and sundry reports released by the Bureau of Land Management and other federal land policy agencies is a total waste of taxpayers' money and should be avoided in the future.

15 [* We resist the level of redundancy that has been used by the compilers of this report. The statements of the National Park Service are dutifully repeated throughout the report; however, the socio-economic impacts for Kane County are alluded to by reference to the first alternative. We submit most respectfully that redundancy is superfluous and redundant. Wherein generalized or even specific statements that have application throughout the report are given in the first part of any of these assessments or impact statements all subsequent references in each report to this particular set of circumstances could be given to the earlier page or pages in the specific report.

16 [* The multitudinous acronyms that are the common stock in trade of the federal land policy agencies are maddening. The bulk of these acronyms are obfuscation raised to a fine art. SU, CU, SW make reference to areas in Utah and Wyoming. The arbitrary use of these symbols throughout the report and the interchange with the written word serves to confuse and obscure the intent and meaning of the report.

III. CONTENT OBJECTIONS:

17 [* We question the designation of endangered status being attributed to the Virgin River roundtail chub and the desert tortoise. Neither species has officially been so designated. They are merely candidates. Further, we have questions relative to the criteria by which such designations are made.

18 [* The Kane County Commissioners wish to have the record showing that prior to project initiation that Utah International Inc. must prepare a mining plan and receive mining plan approval from the Kane County Commission as well as OSM and U.S. Geological Survey. We have not seen the mining plan that was to have been completed by July 1980.

Response 104-14

Color photographs were used in an attempt to clearly represent the panorama that would be viewed by an individual. Commentary associated with these photographs could tend to prejudice the information conveyed by the photographs.

Response 104-15

CEQ regulations require that all alternatives receive equal consideration, and because various project components are contained in several alternatives, impacts resulting from these components are discussed more than once. There are, however, numerous instances in Chapter 4 where similar impacts occurring under one alternative are referenced in another alternative.

Response 104-16

Acronyms are used for brevity. The phrases or names that they represent are spelled out each time they are used in a new chapter. The acronyms used are listed and spelled out as a reader's aid in the List of Abbreviations section of the EIS.

Response 104-17

The desert tortoise was officially listed as threatened in Utah by the USFWS on September 19, 1980 (Federal Register, Volume 45, Number 163, August 20, 1980). Questions concerning this action may be addressed to Director (OES), U.S. Fish and Wildlife Service.

In 1978, the USFWS published a proposal in the Federal Register (Volume 43, Number 164, August 23, 1978) to determine the status of the Virgin River roundtail chub and to identify critical habitat for the species. Its status is still under investigation. The Virgin River roundtail chub is listed as declining by UDWR in Status of Selected Animal and Plant Species in Utah (Salt Lake City, 1979).

Response 104-18

The latest date that the applicant (UII) has stated for submitting a mining plan is 1981 (see Response 89-9).

19 * From our researches we question the visual range reduction assumption of the Environmental Defense Fund, et al. in stating that there would be a 64% reduction in visibility (cf. 4-9). Further, the subsection judgment of the National Park Service of a 16% reduction is also question. The previous calculations of 2.37 seem relatively low but closer to the truth than the two previously mentioned assumptions. Unfortunately, all of this material is predicated on assumptions and computer modelings which, of course, can be twisted to mean whatever the interpreter wants it to mean.

To assess the likelihood of visibility impairment it would behoove the parties involved to ascertain the magnitude of impairment at open-pit strip mines and power plants. This can be easily done. For this reason, we see no problem with the visibility standards for the proposed strip mine, population increase and power plants.

20 * The increased pollution levels of particulate matters associated with the growth in population is ludicrous. The point of raising such a question is to our mind unnecessary. We have repeatedly seen this objection raised by the National Park Service especially when no other legitimate objections seem to hold any validity. If the people are moving into the area, and if they are by their very natures pollution-generators, then, they must be moving from some other point where they have been pollution-generators. Thus, it would appear that the Alton Coal Project is helping to clean up America by dispersing the population more evenly across the landscape of America. Salt Lake might have fewer families because of Alton and therefore, the Environmental Protection Agency would be less severe with Mayor Ted Wilson for the pollution generated in the Salt Lake Valley. To our mind, the entire line of ratiocination is spurious, ludicrous and unnecessary. We have repeatedly railed against such argumentation, but apparently such railings are futile, because we continue to read the same arguments throughout these reports.

21 * The conjecture relative to the removing and replacing of the overburden during surface mining and such activities contaminating ground water should be addressed and a meaningful response secured. We submit that the technology should be sufficiently advanced to eliminate the problem of the total dissolved solids concentrations increasing two or more times. The nitrate in the overburden should be retrieved for use elsewhere rather than being reintroduced into reclaimed lands. Further, testing should be done prior to strip-mining to determine the impacts on the springs in the Alton area and the impacts to those who have rights to those springs.

* Erosion and sediment yield to streams can and should be controlled during the strip-mining. The impacts of surface mining can be alleviated with proper control. The Kane County Commissioners would want to see the mining plan, to have it checked by competent staff and make recommendation with reference to the plan. We do not believe that it is proper for us to be by-passed by the Office of Surface Mining and the Bureau of Land Management in this activity that will be highly impactful to Kane County.

Response 104-19

The estimate of visibility reduction made by the Environmental Defense Fund (EDF) appears to be high; although the details of the study have not been made available to BLM to assess the assumptions and modeling techniques used. The models used in the other studies were greatly simplified and assumed worst-case conditions.

More sophisticated studies have been performed for UII and an inter-agency task force representing OSM, BLM, NPS, and EPA. The interagency study found that visibility reduction would still be noticeable from Bryce Canyon National Park looking through the plume, although the visual range reduction would not be as severe as determined by EDF. See the Air Quality section under Alternative 1 of Chapter 4 in the final EIS.

A visibility impact analysis was also performed for the NPS for potential impacts from the Warner Valley powerplant on Zion National Park. Radian studied potential impacts of the Harry Allen powerplant on visibility of the Paiute Primitive Area and the Valley of Fire State Park (see Chapter 4, Air Quality).

Response 104-20

Increased pollution levels would result from local population growth. However, the effect is very difficult to quantify and would probably be significantly smaller than impacts from the proposed industrial facilities. Pollution would not necessarily decrease at other locations since people would come from many different geographic areas. Furthermore, the Clean Air Act requires analysis of pollution increases from population growth.

Response 104-21

Recent studies (OSM, 1980; Goode, 1980; etc.) have addressed the nitrate, erosion, and overburden problems discussed in the draft EIS. The revised Mining in the Alton Coal Lease Area section under Alternative 1 in Chapter 4 of the final EIS also indicates the required mitigation measures. The lack of a specific mine plan does, however, complicate our analysis. All information utilized by BLM or OSM in the analysis is available upon request.

- 22 * Throughout this report the words of "fact" are couched in terms of supposition and conjecture.. "The salinity of ground water intercepted by surface mining *could* be twice the salinity of the nearest drainage." In equal measure it MIGHT not be twice; in point of fact, it could well be half of the salinity of the nearest drainage. The difficulty with this suppositional language is that it is in most instances followed by a statement of fact predicated on the conjecture.
- 23 * With reference to the impacts of pumping ground water for the coal slurry, we question how the Bureau of Land Management arrived at the figures of 780,000 acre feet of water within a three-mile radius of the plant site (we assumed here that reference was made to the crushing plant for the coal slurry). To date, we have not been able to secure this figure from the State Engineer or the personnel from Utah International, Inc. If there is this volume of water available, then the slurry system would use less than 50% of the total volume of water. Utah International, Inc., on the other hand, insists that their water utilization factor for the coal slurry will be between 2% and 5% or less of the total water volume.
- 24 What is the accuracy level of Guisti's computer model? Further, what impacts will be generated to the water users in the area of draw-down? What water users, if any, would suffer within the 2-mile radius at several hundred-foot draw-down; within 5 miles with 30 feet draw-down; within 10 miles with a one foot draw-down? We realize, of course, that all of this is predicated on a computer model and is not necessarily factual; however, for the purposes of this report we should be apprised of impacts conjectured from the modelling.
- 25 * We have serious reservations regarding the Cordova Report. It is our understanding that this report has never been completed, has not been prepared for publication and has not been published. This report is merely unsubstantiated materials that have yet to be compiled into a totally complete production. Further, it has been brought to our attention that Mr. Cordova is no longer in the country. He cannot substantiate the data and statistics attributed to his report. We question the authenticity of the report. We question the Bureau of Land Management's use of this report. We consider a typescript as suspect, if not spurious.
- 26 * We concur with the National Park Service with reference to concern about the revegetation of the strip-mined areas. We do not favor non-native vegetative types. However, we consider Pinyon, Juniper, Big Sage and other non-utilitarian vegetative types as inappropriate, unacceptable and a waste of time and money. Any revegetative programs should be predicated on the highest and best uses of the land. We submit that only plants native to the area that can and will be utilized by wildlife and cattle should be placed on the reclaimed lands. Further, we feel that anything of a degraded type such as P-J should be avoided.
- 27 * The vegetative species that might be impacted are minimal. We fail to understand the concern of the Bureau of Land Management with reference to this situation. We respectfully submit that some plants might be displaced;

Response 104-22

When available data allows, impacts resulting from the proposed action and the various alternatives are directly quantified. However, if the data is incomplete or unavailable, CEQ regulations require a worst-case analysis to be performed. The impacts identified in a worst case are modified by indicating that impacts could be at this level.

Response 104-23

This figure is based on utilizing assumed aquifer values from existing studies and taking an arbitrary section of aquifer (i.e., 3-mile radius). By utilizing other aquifer sections, the percentage of water removed to the total water available could be higher or lower. Insufficient information is presently available to indicate how much of the aquifer will actually be affected.

Response 104-24

Accuracy of any model can only be determined by comparing the simulated results with actual facts. Since the latter are presently under investigation, the accuracy of the model cannot yet be stated. Impacts are discussed in the revised Ground Water Pumping for Coal Slurry sections, Water Resources, in Chapter 4 of the final EIS.

Response 104-25

The AWV draft EIS was published prior to the release of the Cordova (1980) report. Ground Water Reports by Goode (1980), OSM (1980), and Hydrodata (1980) along with the Cordova (1980) report are summarized and discussed in the Water Resources section under Alternative 1 in Chapter 4 of the final EIS.

Response 104-26

Of primary concern during reclamation procedures would be the stabilization of disturbed soils. In most instances, native plants could be utilized by wildlife and livestock. The types of plants to be used in revegetation programs will be determined following revegetation studies in the area.

Response 104-27

The Siler pincushion cactus is listed as endangered by the USFWS. BLM is mandated under Section 7 of the Endangered Species Act of 1973 to confer with the USFWS concerning any action which may impact any Federally listed species.

however, displacement does not mean adverse perpetual impact. The coal slurry line most assuredly shall cross areas where the silver cholla cactus is growing. That does not mean that the cacti cannot be successfully transplanted and thrive in the new location. To presume displacement means disposal is an improper reading of reclamation and land utilization.

28 * The comments relative to wildlife are inconclusive. Quite frankly, we would hold them to be spurious if there were more substantive statements made along the line contained in the report (cf. 4-41). The Trans-Alaska Pipeline has demonstrated the remarkable ability of wildlife to adapt to new and different intrusions within their domain. We respectfully submit the same would hold true in Southern Utah. We do not feel that the wildlife of Southern Utah is inferior to that of Alaska. The caribou were assumed to be frightened of and avoid the overhead Trans-Alaska Pipeline. For this reason, the preservationists prevailed upon the government to require that parts of the pipeline had to be placed underground. Data available (photos) demonstrate that the caribou favor feeding under the pipeline primarily because of the reseeded that has been done. The preservationists effected a severe financial increase in the project because of their poorly reasoned premise that caribou would be insecure and fearful of the overhead pipeline. We respectfully submit that the Bureau of Land Management should avoid such a mistake in this instance. (Cf. page seven.)

29 * The comments contained in this EIS report relative to the archaeological sites is confusing. "An estimated 238 sites would be adversely impacted during mining activities on 10,154 acres of mining permit area at Alton. Of the total 238 sites, at least 180 would probably be of National Register caliber. (Under-scoring ours). Increased population pressure could lead to increased vandalism of some local sites. *No significant historical properties are presently known in the Alton fields.*" (Italics ours)

What is meant by this paragraph? Are these archaeological sites of historical value or not? If they qualify for the National Register (or possibly might qualify), does not that imply that they might be of historical value? The Kane County Commission contends that these sites should be treated with care. They should be excavated by archaeologists, the artifacts retrieved and the human remains reinterred in the area at the time of reclamation of the land. The artifacts should be retained in the Kane County area in an area set aside as a museum for education and research into the lives and natures of those who inhabited the lands before we came.

Once more we are treated to the suppositional language with reference to "an inestimable number of unknown (buried) sites *could* also be impacted." (Italics ours).

30 * We reject the claim that the construction and operation of the slurry line would impact the Honeymoon Trail. The line would be 1,500 to 4,000 feet north of the trail. The allegation that the line would scar permanently the landscape and thus adversely impact the trail is ludicrous. The trail is being left intact. Once more, we are entering into that dubious land of ooze wherein visibility standards are to be applied indiscriminately. Ultimately, jets will be denied access to the skies above wilderness areas and other

Response 104-28

It is assumed that your comment is in reference to the coal slurry pipeline and its possible disturbance to wildlife. As stated in the Wildlife: Species of Concern section of the draft EIS, the coal slurry pipeline would lie south of the desert tortoise habitat and no impacts would occur. As for common wildlife species (deer, rabbits, and rodents), portions of their habitat would be disturbed during the construction phase, but this loss would not be of a significant nature and would occur for only a 2 to 3-year period.

Response 104-29

Based on the 1980 survey of the Alton coal lease area conducted by the Museum of Northern Arizona, archaeological site densities for this area are revised to reflect one site per 68 acres. Based on this density, the number of estimated sites adversely impacted would be 150.

This study has also shown that few buried archaeological sites exist in the lease area. Appendix 4, Applicants' Proposed Design and Operating Procedures, Cultural Resources Items 1 and 2 indicate that a qualified archaeologist will be onsite during initial ground disturbance, and prior to disturbances, the company will survey and inventory archaeological, cultural, and historical sites in the area of disturbance.

Response 104-30

As indicated in the Cultural Resources sections in Chapter 4 of the final EIS, the physical remains of the Honeymoon Trail would not be impacted by the construction and operation of the coal slurry pipeline. Routing the pipeline 1,500 to 4,000 feet north of the trail would scar landscape which could be viewed from the trail. The applicants have amended Appendix 4, Proposed Design and Operating Procedures under Cultural Resources item 3 to indicate that construction crews will not be able to use the Honeymoon Trail as a construction access route. The elimination of construction crew ORV use on the trail would eliminate these ORV-related impacts.

equally suspect situations. The Honeymoon Trail is intact. It would not be impacted. The utilization of the Honeymoon Trail by ORV does not mean desecration and destruction of the trail. To assume such is the case is beyond the reasoning of sensible individuals.

* It is our contention that in this set of specific objections, the Bureau of Land Management is paying tribute to the specious reasonings of the National Park Service and the preservationists. The logic found throughout the report is diminished in this set of instances.

31 * Unfortunately, we must continue to contend with the dubious conclusions of the National Park Service with reference to Bryce Canyon National Park's degradation and destruction by the Alton Coal Project. We respectfully submit that Mother Nature has had far greater impact on Bryce Canyon National Park than that that will be perpetrated by Utah International, Inc. Blasting that will be done for the coal extraction will be infinitesimal compared to the impacts foisted off on Bryce by Mother Nature through her various earthquakes that have rumbled through the area. It is to be noted that Queen Victoria still reigns in her garden and Thor's Hammer is upright and substantial still. Earthquakes have not diminished, degraded or destroyed the park and its features. Blasting cannot have any greater impact upon the land.

32 * The attitude of Bryce Canyon National Park rangers is questioned again with reference to their insistence that rearranging the configurations of the land reclaimed after mining is anathema. We hail such rearrangement as salubrious and most desirable. Nature in her infinite wisdom is not always making the best use of her resources. We contend that reclamation should consider that ponding and rolling hills are preferable to the present configurations. We submit that where possible the land should be made far more utilitarian for wildlife and agricultural operations. The rangers contend that anything other than the present configuration cannot be acceptable. We reject this concept.

33 * The report (4-47) states that Bryce Canyon National Park personnel are considering upgrading the nature trail that would extend further east from Yovimpa Point and would make visibility of the Alton Coal Fields all the greater. We view this with a jaundiced eye. We contend that this is a deliberate misuse of taxpayers' money to develop an area to extend their personal philosophy to deter development of the Alton Coal Project. From intimate knowledge of Bryce Canyon National Park, we feel that few people (with reference to total visitors) visit Yovimpa Point at the present time much less taking the time, the toil and trouble to visit the extension from Yovimpa Point. The action of the National Park Service is to be questioned and shall be with the Utah Congressional delegation. It would appear that the National Park Service has too much money.

34 * The Kane County Commission has scheduled a Public Hearing on the amendments to the Kane County Zoning Ordinance for September 16, 1980. It is anticipated that the Zoning Ordinance as amended will be adopted at that time. One of the primary amendments would have reference to mining in agricultural zones. The amended ordinance will allow mining in agricultural zones with conditions. There are some considerations that the Planning Commission and the County Commissioners feel should be addressed by any mining developments.

Response 104-31

As indicated in the revised Recreation and Aesthetics section of Chapter 4 of the final EIS, blasting would not have an impact on the erosional features of Bryce Canyon National Park.

Response 104-32

Refer to Response 104-26 for a discussion of this comment.

Response 104-33

BLM does not have any control over the management and planning of Bryce Canyon National Park. Approximately 300,000 visitors a year visit Yovimpa Point to enjoy the panoramic vista which includes the "Grand Staircase".

Response 104-34

As shown in the final EIS, the Land Use, Land Use Plans and Controls sections in Chapters 3 and 4 have been revised to reflect this comment.

The statement in the report that the entire lease area would be changed to "Multiple Use" is incorrect. The agricultural zones are being maintained as agricultural. The former Forest Recreation Areas have been changed to Multiple Use. The permitted and conditional uses in the various zones have been changed.

* The report states that the routing of the proposed pipeline would be through an intensive wilderness inventory unit. It is our understanding from the Bureau of Land Management that Upper Kanab Creek (UT-040-255) has been dropped from further consideration and therefore is not subject to the same concern and considerations that would be afforded to an intensive wilderness area.

* We question the assumptions of the Bureau of Land Management with reference to the quality of life under the socio-economic aspects of the Alton Coal Project. The sociological profiles provided to the Kane County Commissioners by Kaiser Engineers and the power companies during the study of the Kaiparowits Power Plant Project indicated that the miners coming into the area would be comparable educationally and socially to the present citizens of Kane County. To date, we have not seen any sociological profiles on the construction, maintenance and mining personnel that would be brought into the area for this project.

Once more the drafters of the report are making conclusions predicated on assumptions without any real basis in fact.

"Since this alternative would generate rapid increases in population...it would be expected that some major infrastructural problems would result... It could also be anticipated that if the sociological makeup of the "newcomers" is substantially different from the existing relatively homogeneous base population, friction between the two groups could result. Therefore, a decline in general quality of life would be expected during the initial stages of the project.

Conclusion. While providing increased employment and income opportunities in the county, this alternative would probably generate some very major infrastructural and sociological problems."

We submit that assumptions are not necessary. It is possible to secure a sociological profile of the various types of workers that would be coming into the area with the approval of this project.

* In conclusion, we feel that the report submitted by the Bureau of Land Management has been adequate. It is essentially a negative assessment of the possibilities of the project, but by that very fact has assisted us in our evaluation of the prospects of the project. We have taken exception to some of the classic format and verbiage styles of the Bureau of Land Management. We will continue to do so with subsequent reports using the same styles.

Response 104-35

The BLM Upper Kanab Creek intensive wilderness inventory unit has not been recommended for Wilderness Study Area status. The Utah BLM State Director will make the final decisions concerning intensive inventory decisions by November 15, 1980. The text in Chapters 3 and 4 is revised to reflect updates in the wilderness review process.

Response 104-36

Refer to Response 104-6 concerning this comment.

IV. RATIONALE FOR RECOMMENDATION:

ALTERNATIVE SIX:

To our way of thinking, Alternative Six is no alternative at all. We feel that to do nothing is as bad as to do too much in a wrongful manner. The natural resources are here for utilization and development. The process has to be developed wherein these resources are used properly with the minimal impact to the land, the wildlife and the people.

ALTERNATIVE FIVE:

This is "happy talk" perpetrated by the preservationists as a means to obstruct the development of the Allen-Warner Valley Project. The supposition is that conservation can cure the ills of the western world. That is tantamount to a band-aid on a broken leg. It misses the point. Conservation by all means should be effected. Conservation should be an on-going process that is happening now. Unfortunately, it is not. The preservationists are not conserving. How many bright-eyed young things follow the Public Hearing Circuit speaking of conservation in such glib tones while they expend untold gallons of gasoline converging on the various hearing sites. When the preservationists practice what they preach, we might pay more attention to their pious platitudes about conservation.

ALTERNATIVE FOUR:

The Kane County Commissioners are not supportive of Alternative Four. We feel that proper development should be made of the coal reserves that we have here in Kane County. We would support the development of these coal reserves with proper planning and implementation.

ALTERNATIVE THREE:

This alternative is not supported by the Kane County Commissioners principally because it excludes the development of the coal reserves in the "eastern Alton Coal Fields". We feel that this is not proper utilization of the resource. We have contended in the earlier segments of this report that the stance of the National Park Service is not supported. Bryce Canyon National Park shall not be adversely impacted by the development of the Alton Coal Fields totally. To insist that Bryce shall be adversely impacted is pure, unmitigated hyperbole.

ALTERNATIVE TWO:

Alternative Two would be benefit to Kane County; however, we feel that the Warner Valley Power Plant should be implemented as well as the Harry Allen Power Plant in Nevada. For this reason, we cannot accept Alternative Two in that it excludes the Warner Valley Power Plant.

Response 104-37

Please refer to the discussion under Alternative 1 in Chapter 4 of the final EIS. Additional air quality data along with information from the OSM Southern Utah Petition Evaluation Document (USDI, 1980) has been incorporated into the text.

ALTERNATIVE ONE:

The Kane County Board of Commissioners can accept the first alternative with some modifications.

We accept the alternative with the understanding that we are not totally in favor of the slurry line that is a component of this alternative. Instead, we would offer the following recommendations in our prioritization ranking.

A. Railroad: We contend that the most effective developmental tool for the people of Kane County would be the development of a transportation mode that would enhance further industrialization of the area. A railroad would be the ideal tool for such a transportation mode.

1. We submit that the company might be the most logical entity to develop such a railroad. Discussion, however, has centered around the cost factor of such an enterprise. Therefore, we accede to the position of the company that they cannot afford to install a railroad for the transportation of just their retrieved coal.

2. Union Pacific Railroad should be considered as a possible developer of the rail line especially in light of the development of the lumber resources in Panguitch and Fredonia, Arizona, the uranium development at Hack's Canyon south of Fredonia and west of Orderville and finally the leases and possible ultimate development of oil and gas reserves in and around Alton itself. A great deal of work has been done recently relative to the leasing of vast tracks of land for Marathon Oil Company and Mesa Mining, both from Denver, Colorado. We respectfully submit that ultimately a railroad servicing western Kane County would be economically feasible. By ultimately we mean to say within the next five to eight years.

B. Truck Routing: If the railroad is not developed, we would have next on our priority listing the development of a truck routing south from the strip mining area down Kanab Canyon crossing U.S. 89 in the vicinity of the Hancock Road and past the Coral Pink Sand Dunes. This routing would bypass all of the established communities of the county, restrict severely any impacts on tourist and regular traffic on state and federal roads. The companies insist that this option would be more costly ultimately than a railroad. We would have to study the documentation relative to this contention.

C. Coal Slurry Line: The Commission has not been favorably inclined to a slurry line for coal principally because we have yet to determine that this is the highest and best use of the natural resource--water. However, we will accept the concept with several points for discussion that we will present on the subject of the slurry line.

Response 104-38

Refer to Response 12-5 for a discussion of this concern.

Response 104-39

In response to this comment, the proposed truck coal transportation route is modified to bypass all major urban areas. See the Coal Transport System section under Alternative 3 in Chapter 2, and the Land Use, Land Use Plans and Controls section under Alternative 3 in Chapter 4 of the final EIS.

40 1. We would not be adverse to a closed circuit slurry system with the water for such a line coming from the reservoir that is being developed at the Warner Valley Power Plant site. Some discussion has been made that the cost factor would not be as great for raising the water as has been anticipated in that falling water could generate sufficient power to raise an equal amount of water. Some engineering has been proffered with this contention as a primary facet.

41 b. A corollary to this line of reasoning is that if a slurry line is essential, then the companies should consider using their portion of the Virgin River water while it is still in Long Valley. In this wise, they would be able to use the Virgin River water and bypass the heavy cost of pumping the water up the Hurricane Cliffs and across the sand dunes.

42 2. A second source of water for the slurry line could well come from the allocation of the Colorado River that has been apportioned to the states of Nevada and California. A slurry line or aqueduct could be constructed from the out-take corridor on Lake Powell cutting across East Clark Bench, up the Buckskin and on over to the Alton area. It is contended that those areas having the greatest benefit from the utilization of the coal should be willing to use part of their natural resources for the development of the energy.

In the process it would be possible that vast areas of Kane County could be put under cultivation for the highest and best use of the land resources.

43 3. The third source of water is that that was offered in the original Alternative One. However, we would admit a few caveats with reference to this particular source of water. We demand deep hydrology studies to confirm that no adverse impacts will be made upon any of our citizens holding legitimate water rights. No springs, wells or other sources of water must be impacted by the drawdown from the wells punched through by Utah International, Inc. We expect that any deep hydrology studies will be monitored by the State Engineer. Further, we would want the data from the deep hydrology studies forwarded to the Kane County Commission in order that we might secure qualified personnel to examine it and make recommendation to us. We support the project. We support the general concepts. We will, however, block any development until we have answers relative to this water situation, if a slurry line is the only transportation mode developed by the companies.

44 D. Power Plant--Lower Johnson Canyon: From our study of this project, we have determined that the most efficient method for moving the energy would be through a power line. The coal slurry, the railroad, trucking are all inferior to moving coal through a power line figuratively speaking. Therefore, the most economical method would be to develop a power plant a short distance from the mining area. We would respectfully submit that the least objectionable

Response 104-40

The concept of a closed slurry system was considered during the initial formulation of alternatives, but was rejected on the basis that it was not energy efficient nor economically feasible. Refer to Appendix 2 of the final EIS.

Response 104-41

At Glendale, Utah, the mean annual runoff volume is 12,800 acre-feet and the mean annual discharge is 17.7 ft³/s (USGS, Water Data for Utah, 1978). Diverting 8,300 acre-feet per year for slurry purposes would leave 4,500 acre-feet, or a mean discharge of 6.2 ft³/s for other uses. Water requirements for the proposed slurry operation are 6,000 gallons per minute or 13.4 ft³/s. This flow was exceeded at Glendale only 175 days in 1978, a wetter than average year. Thus, looking at only hydrologic factors, this alternative would not be feasible in average runoff years.

Response 104-42

It would be in violation of the State water rights for California to exchange their water right for one in the State of Utah. There is a prescribed quantity of water which is required to flow out of Utah (Colorado River) downstream to the other States of Arizona, Nevada, and California which cannot be reduced.

It would require a greater amount of energy to pump water from Lake Powell to the coal preparation plant at Bald Knoll (approximately 65 miles) than would pumping of ground water. The difference in elevation from Lake Powell to Bald Knoll (3,000 feet) would require several powerful pump stations.

During the initial screening process, this alternative was not found to be legally acceptable nor energy efficient. Refer to Appendix 2 of the final EIS.

Response 104-43

See Chapter 4, Alternative 1, Water Resources, Ground Water Pumping for Coal Slurry section of the final EIS. This section discusses the aquifer testing program presently being implemented by UII and the Utah State engineer. This information is available from the area engineer, Gerald Stoker, in Cedar City.

Response 104-44

Based on your comment this alternative was considered. It would appear, based on energy efficiency, that siting a plant at Lower Johnson Canyon would be feasible. However, sufficient data is not available to make a detailed evaluation at this time.

area would be in the lower Johnson Canyon area less than a mile north of the Utah-Arizona border. The proximity to National Parks, primitive areas and proposed wilderness areas would be far less than that of the Warner Valley Power Plant. Additionally, power corridors to southern Nevada and California are in relative proximity to the area. In sum, the most effective method for utilization of the coal resources to the benefit of the people of southern Utah, southern Nevada and southern California would be the development of a power plant in lower Johnson Canyon in Kane County.

V. RECOMMENDATION:

The Kane County Board of County Commissioners respectfully submits that Alternative One most nearly approximates the philosophy of the commission. This support is qualified as has been indicated on pages eleven, twelve and thirteen of this response.

VI. CONCLUSION:

We once more wish to express our appreciation in having ample time to review, research and respond to this particular Environmental Impact Statement Draft presented by the Bureau of Land Management. This response, however, does not represent that we are satisfied with the Bureau of Land Management's work. There are still lacunae in the data. We anticipate that the Bureau of Land Management will attempt to respond to these concerns that we have raised in the response:

1. The tax-base data;
2. Federal royalties;
3. Time-line for development
4. Sociological profile of the personnel working on the project; and
5. Deep hydrology studies with impartial monitoring.

Further, we submit that before any approvals are granted by the Office of Surface Mining and the Bureau of Land Management that Kane County should be involved in the mining plan. We have questions that might be addressed by the mining plan; however, if they are not, then we would demand answers to our concerns.

The reclamation plan should be submitted to the Planning Commission and County Commission for review. There are some reservations about the requirements that might be imposed by the Office of Surface Mining and the Bureau of Land Management relative to configuration and species of vegetation.

We take strong exception to any of the language inherent in the Draft Environmental Impact Statement that makes reference to Visual Resource Management. We submit that this is an unnecessary intrusion into the land utilization programs of the Bureau of Land Management according to their mandate from Congress and also the policies of Kane County.

Finally, we support the Allen-Warner Valley Project as embodied in Alternative One. We feel that this project should be moved aggressively forward; however, there are still questions that must be and shall be answered prior to development. We appreciate the level of cooperation that we have received from the Bureau of Land Management with reference to the development of this Draft Environmental Impact Statement.

Response 104-45

According to the Surface Mining Control and Reclamation Act of 1977 (Sec. 513), the applicant (UII) must advertise the intention to mine the Alton coal lease area in local newspapers, including information on the ownership, precise location, and boundaries of those lands to be mined.

The regulatory authority (OSM) must notify various local government bodies, planning agencies, water companies, etc. of the applicants' intention to mine the tract of land and must indicate where a copy of the mining and reclamation plan may be inspected.

Response 104-46

The Visual Resource Management (VRM) system is a method for identifying scenery quality and for setting minimum standards for management of visual resources on public lands. Public lands are classified into one of five management classes, with each class containing a specific management objective for maintaining or enhancing visual resources. The management class assigned to a given area depends on three factors: (1) quality of scenery being viewed; (2) the visual sensitivity level of the type of use an area receives; and (3) the visual zone it is in.

The VRM system was brought before the public during the planning process. The public was given the opportunity to comment on land use plans during scoping meetings held prior to the writing of the draft EIS.



IN REPLY REFER TO:

DES-80/41

United States Department of the Interior
HERITAGE CONSERVATION AND RECREATION SERVICE
MID-CONTINENT REGION
POST OFFICE BOX 25387
DENVER FEDERAL CENTER
DENVER, COLORADO 80225

105

AUG 21 1980

MEMORANDUM

To: District Manager, Bureau of Land Management
Cedar City, Utah

From: Assistant Regional Director, Land Use Coordination

Subject: Review of Draft Environmental Impact Statement on the Allen-Warner Valley Energy System, Utah, Arizona, Nevada and California

We have reviewed the subject document and offer the following comments for your consideration.

Nationwide Rivers Inventory

The Virgin River and the Paria River are currently included on the draft list of the Phase I Nationwide Rivers Inventory prepared by this agency. It appears that the significant project-related adverse effects identified for the Virgin River and the proximity of the Alton coal field to the Paria River could affect the quality and suitability of these rivers for further study under the Nationwide Rivers Inventory.

As part of his Environmental Message of August 2, 1979, the President issued a directive requiring Federal agencies to avoid or mitigate adverse effects on rivers identified in the Nationwide Rivers Inventory. Agencies are instructed to consult with this agency prior to taking actions which could effectively foreclose wild, scenic, or recreational river status on rivers in the inventory.

We recommend that, prior to selection of an alternative, the project sponsor contact this agency about these rivers and the status of the Nationwide Rivers Inventory. The appropriate contacts are: Mr. Derrell Thompson, Regional Director, Mid-Continent Region, P.O. Box 25387, Denver Federal Center, Denver, Colorado 80225; and Mr. John Cherry, Regional Director, Pacific Southwest Region, 450 Golden Gate Avenue, P.O. Box 36062, San Francisco, California 94102.

National Natural Landmarks Program

A number of designated National Natural Landmarks and potentially significant natural areas identified as candidates for addition to the National Registry of Natural Landmarks may be adversely affected by construction. Specifically, the alternative transmission line corridor segments within California appear

Heritage Conservation and Recreation Service, Denver, Colorado

Response 105-1

The text is revised as shown in the Recreation and Aesthetics section of Chapters 3 and 4 in the final EIS to include information concerning the draft listing of the Virgin River in Phase I of the Nationwide Rivers Inventory and possible project related impacts. The final EIS does not make reference to the Paria River because it is outside the project's zone of influence. Prior to the implementation of an alternative, BLM will consult with Heritage Conservation and Recreation Service to identify possible changes in status of rivers identified in Phase I of the Nationwide Rivers Inventory.

Response 105-2

The text is revised as shown in the Recreation and Aesthetics section in Chapters 3 and 4 of the final EIS to indicate potential and existing National Natural Landmarks along the proposed Western Transmission System alternatives. The current proposed alignment of the Route 66 Alternative does not pass through the Amboy Crater National Natural Landmark.

to cross or border a number of these natural areas. Preliminary examination of the proposed transmission corridors would suggest that selection of the Highway 66 alternative would result in the fewest adverse impacts on significant natural areas identified as candidates for the National Registry of Natural Landmarks. However, we recommend that the corridor be altered to avoid Amboy Crater National Natural Landmark.

Additionally, the Warner-Pecos transmission line included in Alternatives 1 and 3 and the route shown for the coal slurry pipeline in Alternative 2 appear to cross or pass near the Joshua Tree National Natural Landmark in Washington County, Utah.

Without detailed maps identifying proposed transmission corridors, we cannot definitely rule out potential adverse effects. We recommend that detailed transmission corridor maps be provided to this agency's Denver and San Francisco Regional Offices in order to facilitate identification of any adverse effects and minor corridor adjustments which might be necessary.

Paleontological Resources

We question the omission of the Alton coal fields from the list on page 3-2 of sources of potentially significant plant or animal fossils.

Cultural Resources

The project sponsors are to be commended for their cooperation with the State Historic Preservation Officers and their proposed design and operating procedures (pages A4-A5) requiring the survey and inventory of cultural resources before surface disturbance and the presence of a professional archeologist during initial ground disturbance.

We recommend the inclusion of a work schedule showing compliance with survey procedures and a map or chart indicating culturally sensitive areas in relation to each proposed project alternative in the final environmental impact statement.


Robert J. Arkins

Response 105-3

The text is modified as shown in the Recreation and Aesthetics Section in Chapters 3 and 4 of the final EIS to reflect this concern for the routing (Alternatives 1 and 3) of the Warner-Pecos transmission line and the coal slurry pipeline (Alternative 2) in relationship to Joshua Tree National Natural Landmark in Washington County, Utah.

Response 105-4

The list contains only those regions along the Western Transmission System alternative routes which have been sampled and are considered to be high in paleontological values. Other areas may contain significant paleontological resources, but site specific inventories have not been conducted.

Response 105-5

A work schedule showing compliance with the Advisory Council on Historic Preservation procedures (36 CFR Part 800) has been developed and is included in the final EIS (Appendix 9). Culturally sensitive areas relating to each specific proposed project component are indicated in the Cultural Resources sections in the final EIS.

Sally Crum
 Rt. 1st Box 192
 Collbran, Co. 81624

Mr. Morgan Jensen
 District Manager
 Bureau of Land Management
 P.O. Box 754
 1579 N. Main St.
 Cedar City, Ut. 84720

Dear Mr. Jensen,

I'd like to express my concern over the proposed Allen-Warner Valley Energy System to be located near Utah's biggest tourist attractions, Bryce and Zion National Parks.

I lived for a while in southwestern Colorado where the pollution from the Four Corners Power Plant was usually visible as a disgusting brown cloud settling over an area of 40 to 80 miles, depending on the winds. Dust from the proposed Alton Hills strip mine would combine with the Warner Valley plant to produce a similar effect. This would be a direct violation of Class I air quality standards of Zion National Park, a fact which would adversely affect thousands of visitors' experiences in a supposedly lovely, natural area (many of these folk would be attempting to escape the smog of the big cities).

Additionally, much of southern Utah's water, a scarce commodity, would be taken to operate the slurry lines. This would conflict with many people's existing water rights. Slurry lines are highly visible and would detract immensely from the scenic values of southern Utah.

Conservation and use of alternative energy sources will be the key to our energy future. Therefore, Alternative 5 would be the most prudent and economical selection for the B.L.M. to make!

Thank you for your time.

Sincerely,
 Sally Crum

(over)

Could you please include my comments in the final environmental statement for the Allen-Warner Valley Energy System? Thanks!

Sally Crum, Collbran, Colorado

Response 106-1

Your concerns are addressed in the Air Quality sections of Chapter 4 in the final EIS.

Response 106-2

Refer to Response 76-1 for a discussion of this comment.

Dear Mr. Janson,

I am writing this letter to express my opposition to the proposed Allen-Warner Valley Energy System.

It appears obvious that this project, if put into effect, would be in direct violation of the Class I air quality standards legislation at both Bryce Canyon National Park and at Zion National Park. It would be a tragedy to allow a project such as this to detract from the natural beauty of this unique, and popular, portion of the state.

In addition, I find it difficult to believe that the Virgin River system and the other local water sources could withstand the additional pressure demands which would be placed upon them, and still be expected to keep up with the already existing needs and allocations.

I strongly recommend that (over)

Alternative 5 be adopted (the Energy Conservation and Alternate Energy Sources Alternative). The "energy crisis" is just now beginning for this overcrowded nation, and this overcrowded planet. It is time, indeed past time, that we have in America (a nation containing less than 10% of the world's population, yet being accountable for approximately 80-90% of the energy consumption) began conserving our natural resources ~~on~~ rather than rampantly seeking more to exploit.

There are many things which we should consider more important "luxuries" than some of the needless and wasteful uses towards which our energy consumption is being put. Retaining a sample of some of our natural environment should remain high on this list. Sincerely,
Curtis W. Martin

Curtis Martin

Response 107-1

Refer to the Air Quality section under Alternative 1 of Chapter 4 in the final EIS for a discussion of this comment.

Response 107-2

The diversion of water from the Virgin River under Alternatives 1 and 3 is discussed in the Warner Valley Water Project section of Chapter 2 and the projected results of these diversions are tabulated in table 4-5 of the final EIS. Possible conflicts would arise from CPUC's claim to 100 ft³/s for power generation (CPUC currently uses 40 ft³/s). Based on table 4-5 (Alternative 1), the median flows would only provide the 60 additional ft³/s required to fully utilize their claim 4 months a year, as opposed to 9 months presently available.

108

LAS VEGAS WASH DEVELOPMENT COMMITTEE

5200 EAST FLAMINGO ROAD

LAS VEGAS, NEVADA 89122

ADVISORY TO THE BOARD OF COUNTY COMMISSIONERS

CLARK COUNTY

August 20, 1980

District Manager
Cedar City District
Bureau of Land Management
P.O. Box 724
Cedar City, Utah 84720

Ref: 1792 AWV
(U-921)

Dear District Manager:

In response to the Allen-Warner Valley Energy System EIS Draft received this summer, the following are comments on behalf of the Las Vegas Wash Development Committee.

The Wash Development Committee (WDC) has been advisory to the Board of Clark County Commissioners since late 1973, and is representative of civic and nature oriented organizations as well as local political entities and professional park/recreation and community planners.

Since the 1979 Scoping Meetings, which our body was not aware of, a Clark County Wetland Park in the Las Vegas Wash and Rainbow Gardens area has become a definite possibility. Funds for land acquisition have been accrued this spring and summer. While land negotiations are going forward the master plan for this unique facility is being prepared by a private firm for Clark County. Thus, the park has become an important consideration since the draft formulation. Though Rainbow Gardens area is mentioned in the draft, the Las Vegas Wash wetland area is not, nor is the planned Clark County Park which includes both.

At the Las Vegas Convention Center hearing this summer, Clark County Commissioner Robert Broadbent drew attention to the impact of the transmission line corridor upon the Rainbow Gardens and the Wash sectors of this park. The visual impact and impact of tower construction and maintenance roads in these scenic recreation sectors of the potential park should be treated in the final EIS. The additional IPP lines and the Allen-Warner Valley Energy System lines make a total of six lines in the corridor with the present line and greatly widen the corridor.

The WDC is on record as ready to aid mitigation negotiations regarding these severe impacts on the future Clark County Wetland Park. The Committee has met with companies proposing the five additional lines and hopes for mutually beneficial adjustments for park and power transmission in the same land area.

District Manager, BLM
Ref: 1792 AWV (U-921)

-2-

August 20, 1980

The WDC appreciates the opportunity to respond to the Allen-Warner Valley Energy System EIS Draft and looks forward to reviewing the final EIS.

Sincerely yours,

Glade Koch

(Mrs.) Glade Koch

cc: John W. Arlidge
Bruce Campbell
Robert C. Nauert
Dell Waddoups

GK/dg

Las Vegas Wash Development Committee, Las Vegas, Nevada

Response 108-1

The Las Vegas Wash is being studied by Clark County Parks and Recreation and Comprehensive Planning Departments for the potential development of a wetlands park. An environmental analysis is being conducted by Clark County to analyze the feasibility of developing recreation uses. Following the environmental analysis and public input on the alternatives developed, a detailed master plan will be prepared by Clark County. After this is done, land will be acquired from BLM, Henderson, and Las Vegas to develop the master plan. As yet, no application has been made to BLM for any such lands.

Clark County Parks and Recreation Department is aware of the existing powerline corridor and the proposed powerlines to follow this corridor. It is their feeling that if the standard operating procedures and mitigating measures set forth in this EIS are followed, these lines and the corridor would not affect the development of this wetlands park (personal communication, Dirck Van Gorp, Clark County Parks and Recreation Department, September 11, 1980).

The Rainbow Gardens area is also being considered for development and incorporation into the wetlands park system, but likewise no application has been received from Clark County for these BLM-administered lands. Until such time as an application is made for these lands, those corridors for the transmission lines, both proposed and existing, have to be managed and administered by BLM in accordance with currently available information.

Steve Flint, Logan, Utah

Response 109-1

Your views are noted and will be considered in the decision making process.

8/22/80

Dear Mr. Jensen,

Though the deadline for comments on the Allen-Warner Valley energy system is past, perhaps these comments could still be included.

I support Alternative 5 which would eliminate most of the problems by removing the Alton coalfields, slurry lines, and the Warner Valley plant from the proposal.

Sincerely, Stephen D. Flint

Art Wittich
265 W. 1500 N.
Vernal, UT 84078

August 20, 1980

Mr. Morgan Jensen
BLM District Manager
P.O. Box 724
1579 N. Main St.
Cedar City, UT 84720

Dear Mr. Jensen,

I would like to say first off, that the BLM did a fine job preparing the Allen-Warner Valley Energy System Draft Environmental Impact Statement.

I feel however that there are no advantages to building this system, and the only logical choice is Alternative 5 (Energy Conservation and the Development of Alternative Sources).

Being a Utah resident, and frequent traveler to southern Utah, I am primarily concerned with the impacts this system would have on Utah. While Nevada and Utah would receive virtually all of the adverse environmental effects, we would receive only 16% of the power from the proposed 2,500 Mw plant as California receives the remaining 84%. As I see it, there are four very important adverse environmental impacts.

1. Air quality standards would probably be exceeded in at least three Class I areas (Zion, Bryce Canyon, and Capitol Reef National Parks).
2. As you know, water is a valuable resource in the Southwest, and mining groundwater from the Navajo Sandstone Formation, for the Alton coal fields, will probably have an effect on the existing water users. The results from the Utah Division of Water Rights study on this matter will be crucial.
3. Certain endangered species of plants and animals will be adversely effected.
4. There will be definite visibility impacts in the area, including Zion National Park. The photo-simulations were very helpful in this regard, but hopefully never have to see how accurate these simulations are to real life. The visual simulations (Figures 4-1 and 4-2) depicted a haze like Provo's or Salt Lake City's. Gentlemen, Zion National Park deserves better treatment than that!
5. St. George would only receive 5% of the power from the proposed 2,500 Mw system (Alternative 1), but it doesn't even need that, due to it's relationship with Utah Power and Light Company. It also doesn't need the water from the proposed Warner Valley water project, due to the present Snow Canyon project.

It is estimated that Alternative 1 will save us 25 million barrels of oil annually, while Alternative 5 would save us 43.5 million barrels of oil annually, therefore Alternative 5 is clearly the superior choice.

I am a strong proponent of energy independence from foreign interests, but the best way to achieve this is by changing to renewable alternative forms of energy. By post-poning this switch, and continuing our dependence on non-renewable fossil fuels, we are only making the transition more costly.

Art Wittich, Vernal, Utah

Response 110-1

Your views are noted and will be considered in the decision making process. However, as indicated in the Air Quality section under Alternative 3 of Chapter 4 in the final EIS, the proposed project is not expected to exceed air quality standards at Capitol Reef National Park.

Response 110-2

The Utah State Engineer will make a decision concerning the use of this water only after pumping tests have been concluded. See the discussion on impacts of pumping ground water in the Water Resources section under Alternative 1 in Chapter 4 of the final EIS for more information on this matter.

Response 110-3

Endangered plants and animal species would be affected differently by each of the alternatives. Examples of these impacts are discussed in the Vegetation: Species of Concern and Wildlife: Species of Concern sections in Alternatives 1, 2, 3, and 4 of Chapter 4 in the final EIS.

Response 110-4

The visual simulations (figs. 4-2 and 4-3) are revised in the final EIS to provide a better means of comparison between the photograph of the existing situation and the simulated photograph of impacts on visibility. The revised figures include a computer simulation of the existing situation. This facilitates a more accurate comparison of the photographs.

Response 110-5

Refer to the Purpose and Need of Proposed Project section of Chapter 1 in the final EIS for the discussion on water and energy needs for the city of St. George. BLM reiterates that St. George does not need the power and water represented by the AWV project.

Page 2
Mr. Morgan Jensen

6 I have two questions concerning the DEIS: First, with Nevada Power Company's increased PSD permit for their Reid Gardner plant (25 miles away), will the Harry Allen plant be able to comply with the established air quality standards?

7 Secondly, is the A-WV system being analyzed as a single development, or in conjunction with the other numerous (existing and proposed) Southwestern power plants, coal mines, water developments, mineral developments, and the MX missile system? As you know, the cumulative effect of these would have a devastating impact on the Southwest as we know it today.

The DEIS states that some of the adverse impacts are unavoidable, and that they will "only" last during the projects life. Well I don't want to wait 10 years to see this area unimpaired again. And I don't want the Southwest ruined for the sake of California's electricity demands.

Thank you for allowing me to comment on the A-WV system.

Sincerely,



Art Wittich

Response 110-6

Possible interactions between Reid Gardner Units 1 through 4 and the Harry Allen powerplant and potential violations of NAAQS and PSD increments are being considered by EPA. This concern would have to be resolved before the issuance of a PSD permit by EPA for Harry Allen.

Response 110-7

Cumulative impacts that would result from this and other projects are discussed in the final EIS where appropriate.

111



LOS ANGELES AREA CHAMBER OF COMMERCE
404 N. RIVER ST. LOS ANGELES, CALIF. 90001 (213) 620-0711

DIANA OLSON
Project Manager
Development & Environmental Council
829-0855

August 21, 1980

Mr. Morgan Jensen:

The attached report on the Allen-Warner Valley Energy System is being sent pursuant to our mailgram to you on this date.



LOS ANGELES AREA CHAMBER OF COMMERCE
COMMITTEE REPORT TO BOARD OF DIRECTORS

August 7, 1980

COMMITTEE

WATER AND ENERGY COMMITTEE
Peter de Wetter, Chairman

SUBJECT:

ALLEN-WARNER VALLEY ENERGY SYSTEM

STATUS

FOR ACTION

APPROVED BY BOARD OF DIRECTORS

RECOMMENDATION

That the Los Angeles Area Chamber of Commerce support the development of the coal-based Allen-Warner Valley Energy System by the Southern California Edison Company and other Western electric utilities as a major source of electric energy for the Southwest, including the Los Angeles Area.

STATEMENT

The Allen-Warner Valley Energy System is essential if Southern California is to have the electrical generating capacity sufficient to meet the needs of its citizens. In supporting construction of this system, the Chamber must continue to stimulate greater public awareness of the serious consequences to our economic, physical and social well-being which would result from a shortage of reliable, affordable electric energy.

BACKGROUND

Description of the Allen-Warner
Valley Energy System

The Allen-Warner Valley Energy System consists of five separate development projects: The Alton Coal Field near Kanab, Utah, the Alton Coal Slurry Pipelines, the Warner Valley Generating Station near St. George, Utah, the Harry Allen Generating Station in Southern Nevada, and the associated electric power transmission lines. The mine produces the

-2-

primary energy resource, the pipelines convey it to the two power plants that convert it to electricity, and the transmission lines deliver it to energy markets throughout the southwest, including the Los Angeles Area.

1 [The coal field includes approximately 28,000 acres of coal leases, enough coal to fuel 2,500 megawatts of electric generating capacity for more than 35 years. There is sufficient water in deep aquifers to prepare coal-water slurry for pipeline transportation.]

The Warner Valley Generating Station will have two units with a total capacity of 500-megawatts. The Harry Allen Generating Station will have four units with a total capacity of 2,000 megawatts.

The Nevada Power Company, which is managing the development of the Allen-Warner Valley Energy System, the Pacific Gas & Electric Company and the City of St. George, Utah, as well as the Southern California Edison Company, are participating in the preliminary studies and activities necessary to secure regulatory approvals. Participation in the energy system will vary according to the requirements of the participants. In general, however, it is currently anticipated that Edison will own 25% of the Warner Valley Station and 40% of the Allen Station.

The Alton coal mine is to be operated by Utah International Incorporated, an experienced mine operator. The proposed coal slurry pipeline system will consist of a slurry preparation plant near the mine, 183 miles of 22-inch pipeline to the Allen Generating Station and 70 miles of 12-inch pipeline to the Warner Valley Generating Station. Southern Pacific Pipe Lines Company is doing the pipeline engineering and environmental studies under contract to Nevada Power. It is expected that a new company will be formed to construct and operate the line.

Two 500,000-volt transmission lines will bring power from the Allen Generating Station into the existing transmission networks of California. Other transmission lines will be constructed especially to serve Las Vegas and St. George.

The Need for the Allen-Warner Valley Energy System

The Allen-Warner Valley Energy System will serve the Southern California Edison utility system which supplies nearly all the electricity to light and air condition the homes and operate the businesses of eight million people in the metropolitan area immediately surrounding the City and County of Los Angeles. In 1979 providing energy for these homes and businesses required generating plants with a capacity of 15,000 megawatts, which produced energy equivalent to 70 million barrels of oil.

Los Angeles Area Chamber of Commerce, Los Angeles, California

Response 111-1

UIL is currently testing the deep aquifer (Navajo Sandstone) in order to determine if sufficient water exists for coal slurry transportation without adverse impacts on existing water users.

- 2 During the '70s, Southern California outpaced the nation in population growth, new jobs and economic activity. To some extent, a growth trend will continue. Even though the high cost of primary energy resources and the success of conservation programs has reduced the rate at which electric energy consumption could be expected to grow, the demand growth curve for electricity is still expected to rise at about 2.8 percent per year for the coming decade in the Southern California Edison service area. Most of that growth will be required to serve a larger population and the corresponding increase in economic activity.
- 3 To serve this increasing demand, to replace old, inefficient generating units and to compensate for the termination of existing power purchase contracts with other utilities, Southern California Edison will have to find approximately 6000 megawatts of additional capacity by 1990. The Allen-Warner Valley System could supply more than 15 percent of that capacity. The consequences of failure to find this additional capacity would include increased risk of service interruptions in the mid to late 1980s, increased consumption of imported oil and higher electric rates.
- 4 Completion of the Allen-Warner Valley Energy System and the participation of California utilities will mean a reduction in California oil consumption by approximately 20 million barrels annually and an oil cost reduction of more than \$600 million annually, based on current prices. It will supply the electricity needs of more than one million Californians and provide electricity for a half million jobs which will contribute \$15 billion annually to personal incomes.

Environmental Considerations

Concerns have been raised regarding potential impacts on the environment and surrounding geographic areas. Nevada Power Company, the project manager, together with several federal agencies, has worked more than six years at engineering and environmental studies costing more than \$9 million with the intention of identifying and mitigating any potential effects.

- 5 Air quality emissions from the plants will meet applicable Environmental Protection Agency standards protecting public health and welfare and work is being done to mitigate potential visibility impacts.
- 6 Most of the water required for the project will be treated waste water and unappropriated river water. The Bureau of Land Management (BLM) and the U.S. Fish and Wildlife Service are conducting research aimed at protecting threatened or endangered species.
- 7 The proposed Western Transmission System to deliver power from the Allen-Warner Valley Energy System is planned within, or adjacent to, existing

Response 111-2

Your concerns are addressed in the Purpose and Need of Proposed Project section of Chapter 1 in the final EIS.

Response 111-3

According to CPUC (staff reports, 1980), the capacity represented by the proposed Harry Allen powerplant would be needed for displacing oil-fired capacity and not for increased load growth or for reliability reasons.

Response 111-4

Your views on this matter will be considered in the decision making process.

Response 111-5

Although NAAQS (established to protect public health and welfare) would probably be met, studies show that the PSD increments designed to prevent significant deterioration of air quality standards may not be met for SO₂. Visibility impacts are largely caused by NO₂, and only very limited control has been developed for this. The potential impacts are presented in more detail in the Air Quality section under Alternative 1 in Chapter 4 of the final EIS.

Response 111-6

The sources of water for proposed alternatives are discussed in the text in the Dry Lake, Nevada and Las Vegas Wash and the Warner Valley Water Project section under Alternatives 1, 2, 3, and 4 of Chapter 4 in the final EIS.

Response 111-7

Your comments concerning the routing of the Interstate Highway 15 transmission corridor to avoid Federally proposed Wilderness Study Areas are considered in the final EIS. See the Recreation and Aesthetics sections in Chapter 4.

transmission corridors wherever possible. In California, the plan is to follow Interstate Highway 15 and an existing Edison 138,000 volt transmission line to avoid federally proposed wilderness study areas. The preferred plan was the result of more than six months of concentrated studies which included environmental, socioeconomic, ethnological and engineering investigations.

In the end, however, the acquisition of this valuable energy facility is dependent upon the resolution of the one key licensing dilemma: no one agency is charged with the responsibility of balancing the environmental issues against the total public interest. In our efforts to protect the environment, a number of single-purpose agencies have been created, often with conflicting aims, such as reducing dependence on foreign oil, serving consumers' needs, and insuring our economic well-being, and protecting the environment.

Our nation and our community must recognize that coal-fired power plants are an essential option to serve the public and that we cannot afford to pass the buck from one agency to the next regarding power plant approvals.

Regulatory Status of the Project

Since April 1974, the lead agency, Nevada Power Company, has been conducting preliminary engineering and environmental studies. In September of 1975, a six-volume report was submitted to the federal Bureau of Land Management (BLM), lead agency on the federal side. Since then, additional information has been supplied to the Bureau for the Environmental Impact Statement required to comply with the National Environmental Policy Act (NEPA). The Alton Coal Field is included in the Southern Utah Regional Coal Development Environmental Impact Statement issued in May 1979.

The final Environmental Impact Statement and decision by the Secretary of the Interior on the system is expected from BLM by late November 1980. The Environmental Protection Agency's decision on the air quality Prevention of Significant Deterioration (PSD) Permits is also expected before the end of 1980. Southern California Edison Company and Pacific Gas and Electric Company anticipate a decision on their application to the California Public Utilities Commission (CPUC) for Certificates of Public Convenience and Necessity in January 1981. This schedule should make it possible to obtain the other necessary federal, state and local permits for construction of the energy complex beginning in early 1981. Both the BLM and CPUC are currently holding public hearings on the project. The first unit of the Warner Valley Station could be placed in commercial operation in 1985.

Response 111-8

BLM was provided with a preliminary decision regarding PSD from Region VIII of the EPA in October 1980. A decision regarding PSD from Region IX of the EPA is pending. The CPUC decision on a Certificate of Public Convenience and Necessity is expected in December 1980. The Secretary of the Interior is expected to make his decision before January 1981.

Economics and Energy Policy

Neither the United States, the state of California, nor the Los Angeles area any longer have the luxury of choosing a "favorite" form of energy. We must develop all our options. Energy, the capacity to work, is the basis of a prosperous economy. Our available energy appears to be shrinking relative to the needs of our people, and our economy is feeling the effect.

Although no one new technology alone will be able to generate power in sufficient quantities to meet the needs of Southern California in the last years of this decade, Southern California Edison, like other utilities, is pursuing conservation, cogeneration, and the development of every promising new energy technology, notably wind generation, solar power, and geothermal energy in an effort to be ready with the most advanced technology when these sources become economically viable.

9 However, in the near term, coal remains our best option for new power supplies. The Allen-Warner Valley Energy System will supply energy to consumers at lower cost than other alternatives now available and will pay for itself with the money saved on oil alone.

The national goal of reducing our dependence on foreign oil is urged at every level of government and by every shade of political opinion. Both President Carter and Republican nominee Reagan have stated that the survival of the United States depends on its ability to reduce our ties to OPEC oil.

Yet, despite efforts by the federal government to reduce oil imports, since the announcement of Project Independence by President Nixon nearly a decade ago, the U.S. has doubled its imports of OPEC oil.

The western states are in a unique position to respond to the national challenge. Proven low-sulfur coal reserves in the West total 200 billion tons, 40% of the nation's supply. At our present rate of consumption, that is enough coal to provide for the country's total energy needs for the next 200 years.

ARGUMENTS IN SUPPORT OF THE RECOMMENDATION

1. Reduces dependence on OPEC oil, which has had such adverse impacts on our economy.
2. Coal is a relatively low cost energy resource, readily available, and our only viable option for the mid to late '80s.

Response 111-9

Your views are noted and will be considered in the decision making process. Although the applicants have stated that the proposed AWV energy system is the most cost-effective method to meet the energy needs in their respective service areas, contradicting positions are held by the CPUC staff, the Environmental Defense Fund, and other organizations, agencies, and individuals, as evidenced by correspondence included in this volume.

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District Manager
Cedar City District
Bureau of Land Management
P.O. Box 724
Cedar City, Utah 84720


Re: Allen-Warner Valley Draft EIS

Ladies and Gentlemen:

Please consider the following brief comments on the Allen-Warner Valley proposal:

1. Of the proposed alternatives, Alternative 5 is, in my view, clearly the most preferable. There can be little dispute that avoiding major changes in geographic features and avoiding large scale socioeconomic problems by fully developing relatively simple methods of conservation combined with some alternative energy source development is the preferred alternative. Once these options, including serious policy changes by the utility companies and the City of St. George are made to assure that the conservation option is fully implemented, the need for the proposed system may well disappear or at least be postponed significantly. While it may be difficult to suggest that imposing strict conservation measures on the public is in the overall public interest, I believe this is the case and is preferable to massive construction.
2. If after implementation of all available conservation and alternative energy options some new plant is needed, the best choice would be development of the Harry Allen plant site only, using existing road and rail transportation to supply coal from existing mines in Carbon and Emery counties. The Warner Valley site and the Alton coal fields should be preserved for future needs, preferably to be developed by local entities as a mine mouth plant of smaller scale.
3. The integrity of the National Parks must be preserved. Figures 4-1 and 4-2 in the DEIS speak louder than many thousands of words. Such impacts on visibility in Zion are unacceptable and would destroy the integrity and beauty of the park. Bryce also should not be subjected to mining which will be an eyesore and perhaps damage the delicate structures of the park, as well as ruining the panoramic views.
4. Coal processing and coal slurries are a very poor use of water and should not be used. Water should be maintained for higher priority uses and should be protected, both as to endangered species in streams and as to agricultural and domestic use which may be permanently damaged by polluting or even simply draining springs.

Sincerely yours,


Bruce Plenk
125 L Street
Salt Lake City, UT 84103

Bruce Plenk, Salt Lake City, Utah

Response 112-1

Your views are noted and will be considered in the final EIS.

113

1416 Butler Avenue
Salt Lake City, Utah
84102

District Supervisor
Cedar City District
Bureau Of Land Management
Cedar City, Utah

Dear Sir:

I am writing to express two very basic concerns about the proposed Warner Valley power plant, which is currently sited 20 miles south of Hurricane Utah, with a coal source in the Alton Field near Bryce Canyon National Park.

First, and this is the toughest question, why is yet another plant being proposed to solid the pristine (relatively) air of Utah to run hair dryers and towel warmers in California? It seems clear that the economics of such a project are the most favorable to the developers of the project, but not quite so beneficial to the people of Utah. It's clear that the people of California should pay the real cost of Utah for their power, and no current proposal ever assesses the real cost.

Second, I believe that the current proposal for coal transportation is by means of a slurry pipeline. This method is fine in a humid area, but clearly the climate of southwestern Utah is not the place for a water use so obviously demanding of scarce (relatively) local water. Apparently a fair number of local farmers and cattlemen believe that this project will threaten their livelihoods. If this is the case, the proposed project must pay that cost, and I can confidently predict that it does not offer to pay the real cost of disrupting the livelihoods of its neighbors.

These questions should be answered in more advanced detail here before your office and your bureau place any approval or disapproval on this proposal.

Clark C. deNevers, Salt Lake City, Utah

Response 113-1

In response to future energy needs, various projects and methodologies are investigated and eventually proposed. The actual makeup of these energy projects depends on a number of parameters, including location of market, location of energy source, type of system proposed, etc. The reasoning as to why a project is proposed as designed (i.e., the AWV energy system) is a priority of the proponents of such a project and the individuals, local and State governments, and organizations involved. The EIS is an attempt to gauge the proposed project against the impacts that would occur to the environment with its implementation. These findings are one of several tools used in making a final decision.

Response 113-2

Your views are noted and will be considered in the final decision making process.

Yours Truly,
Clark C. deNevers

332

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August 21, 1980

Mr. Martin Jensen
District Manager
Bureau of Land Management
PO Box 72-
Cedar City, Utah 84720

Please include this letter with the Allen-Warner Valley Energy System
Draft EIS.

Gentlemen:

Having studied the Allen-Warner Valley Energy System, I feel there are sufficient reasons why this project should not be built as proposed.

Two of Utah's National Parks will be adversely affected by the building of the AWVES. The proximity of the Warner Valley Plant to Zion National Park could violate the Class I Air Quality in the Park. The proximity of the Alton Hills coal fields strip mining operations could cause dust from excavations to obscure the visual range from Bryce Canyon's scenic Yovimpa Point overlook by 64%. The parks are a valuable part of Utah's scenic and recreational resources. To endanger their quality for the very small amount of energy Utah would receive from the AWVES seems foolish.

Another of Utah's scarce resources is water. 10,000 acre feet of ground water is to be sacrificed yearly for the AWVES slurries. The ground water is from the Navajo aquifer, which supplies spring and well water for local ranchers. Their livelihood depends upon the availability of this water. Again, for such a small energy gain to Utah, this seems unfair.

It is time to realize that trade-offs like these can no longer be made. The stakes are far too high to continue to emphasize such an unrenewable energy source as coal. Viable options are now available for alternate sources of energy as well as conservation measures. I suggest that the BLM select Alternative 5 - the Energy Conservation and Alternate Energy Sources Alternative, as a realistic solution to future needs.

Sincerely,

Pat Ehrman
Pat Ehrman

Pat Ehrman

Response 114-1

Your views are noted and will be considered in the decision making process.



DEPARTMENT OF THE AIR FORCE
REGIONAL CIVIL ENGINEER WESTERN REGION (AFESC)
630 SANSOME STREET - ROOM 1316
SAN FRANCISCO, CALIFORNIA 94111

115

REPLY TO
ATTN: ROV

20 August 1980

SUBJECT: The Allen-Warner Valley Energy System draft EIS

TO: District Manager
Cedar City District
Bureau of Land Management
P.O. Box 724
Cedar City, Utah 84720

1. The following comments are offered on subject DEIS

a. Concerning George AFB, Victorville California. There may be potential conflicts between low level aircrew training routes and any or all of the four alternative routes for the western transmission system. The transmission system may also interfere with takeoffs and landings in the vicinity of George AFB. However, we cannot comment specifically since the EIS does not describe heights of transmission line towers nor does it show transmission line alignments with sufficient detail in the areas of these potential conflicts. We expect to soon receive the Environmental Impact Report for the western transmission system from the California Public Utilities Commission. We understand that the EIR contains detailed right-of-ways and a description of the transmission line from which we can determine conflicts with aircraft. We will comment more definitively to the PUC after we receive the EIR.

b. The above comments for George AFB are also applicable to Edwards AFB and vicinity.

c. Possible impacts on the Nellis AFB Range Operations in Nevada include

(1) Dry lake valley construction of the power plant at this location would require selecting an alternate bailout area for training.

(2) Electrical transmission lines: pilots would be required to avoid additional lines.

(3) The wastewater effluent line is proposed to cross Nellis AFB. There are questions of easement rights, exact location to minimize impact to the base, and construction phase interference with Base Operations that remain unresolved.

d. Page 1-8 of Allen Warner-Valley DEIS lists the MX Missile System. The Draft EIS for the MX will contain information which should be useful in determining potential land use conflicts between the MX system and the Energy System. Copies of the MX DEIS will be available from:

AFCE (MX)
Norton AFB, CA 92409.

4 [2. Please provide AFRCE (WR) and AFRCE (MX) a copy of the final EIS.

Phillip E. Lammie
PHILLIP E. LAMMIE, Chief,
Environmental Planning Division

Cy to: SAF/MIO
AF/LEEV/RD-M
AFSC/DEV/XRTO
TAC/DE
554thCES/DESEP
Nellis TFWC/XP
35CSG/DE
6510CES/DE
AFRCE (MX)
Edwards AFTC/XR

Department of the Air Force, San Francisco, California

Response 115-1

The heights of the proposed towers are described in the Electrical Transmission Systems sections of Chapter 2 in the final EIS. Exact alignments would not be finalized until a transmission corridor would be chosen and on-ground surveying would occur. At the time of the survey, the Air Force officials at George and Edwards Air Force Bases would be notified and their concerns properly mitigated.

Response 115-2

The placement of the Harry Allen powerplant and the proposed transmission lines would present new obstacles for pilots; however, these should be mitigated through proper communication with all parties involved.

Should the proposed wastewater line to the Harry Allen powerplant be authorized across public land, exact alignment across Nellis Air Force Base would be subject to the guidelines of the Air Force.

Response 115-3

The final AWV EIS was released prior to the draft MX document, and therefore, does not include any information on the MX system.

Response 115-4

AFRCE (MX) and AFRCE (WR) are included on the final EIS mailing list.

Miss Andrea Mitchell
289 Molino Avenue
Long Beach, California 90803
August 14, 1980

Dear Sir:

Utah has been blessed with terrain, varied topography, and natural beauty. With one short visit to Utah, one is enlightened with the grandness and the ecology consciousness of the alpine. Three pleasant thoughts are instilled in the visitor's minds for many years to come.

Bryce Canyon National Park, a 36,007 acre sanctuary for all wildlife is one of these pleasant sights. A proposed strip mine, two and a half miles from Bryce Canyon, may ruin this natural beauty. The mine, an 8,300 acre ditch, would reduce visibility from 115 miles to 45 miles due to dust and haze. The water supply for the mining area and the agricultural kind to the south would be adversely affected by the strip mine.

2 Southern California Edison and Pacific Gas and Electric would benefit greatly from this business venture; 90 percent of the generated power would go to these two utilities. The coal that has been mined from the strip mine titled the Allen-Warner Valley Energy System would be used for fueling two 2,500-megawatt power plants in Nevada. The environment of Bryce Canyon National Park is a healthy, clean environment. If the Allen-Warner Valley Energy System is completed, the environment of Bryce Canyon will be changed for the worst. Let the natural beauty of Bryce Canyon remain in the minds of the visitor without dust and haze, which would be generated from the Allen-Warner Valley Energy System.

Sincerely yours,
Miss Andrea Mitchell
Miss Andrea Mitchell

Andrea Mitchell, Long Beach, California

Response 116-1

Yovimpa Point, which is approximately 4 to 6 miles from the eastern portions of the Alton East coal lease area, is located on the Paunsaugunt Plateau in the 35,835-acre Bryce Canyon National Park. Five separate visual reduction calculations have been conducted to estimate visibility reductions at Bryce Canyon National Park. These studies indicated visibility reductions ranging from 2.3 percent to 64 percent.

Response 116-2

Initial energy allocations for the proposed AWV Energy System would give the California utilities approximately 83.6 percent of the total capacity represented by the project. The city of St. George would have additional unneeded capacity which they are currently seeking to "layoff" to prospective buyers (California utilities). The exact amount that would be sold has not been specified.

TIM HUBBARD
2020 HERMOSA DR.
BOULDER, CO. 80302

MR. MORGAN JENSEN
DISTRICT MANAGER
BUREAU OF LAND MANAGEMENT
P.O. BOX 724
1679 NORTH MAIN ST.
CEDAR CREEK, UTAH

DEAR MR. JENSEN,

I AM WRITING TO STATE MY OPPOSITION TO THE ALLEN-LARIMER VALLEY ENERGY SYSTEM. THE PROPOSED PLANT, TO BE LOCATED A MERE 23 MILES FROM ZION NATIONAL PARK, WOULD PRODUCE A LARGE AND DISGUSTING BROWN CLOUD OVER THAT SCENIC TOURIST AREA. IT IS ~~TO~~ THEREFORE IN VIOLATION OF CLASS I CLEAN AIR STANDARDS FOR NATIONAL PARKS. TOURISM WOULD ~~BE~~ DECLINE AT ZION AND ALSO AT BRYCE CANYON WHERE THE ALTON HILLS STRIP MINE WOULD DECREASE SCENIC BEAUTY AND CAUSE DUST PROBLEMS. SLURRY OPERATIONS WOULD TIE UP VIRTUALLY ALL THE WATER AVAILABLE IN THE AREA, MAKING OTHER TYPES OF LAND USE (RANCHING, ETC) VERY DIFFICULT.

I BELIEVE THAT IT IS TIME WE LOOK AT THE ENERGY CRISIS IN A NEW WAY. NOT AS A THREAT TO OUR EXISTING LIFESTYLE, BUT AS A CHALLENGE TO CHANGE. WE MUST CAREFULLY CONSIDER WHAT NEW COURSE WE SHOULD FOLLOW AND WEIGH THE ~~THE~~ CONS ALONG WITH THE PROS. I THINK THAT A PERIOD OF ENERGY CONSUMPTION CUTBACK IS NECESSARY WHILE WE SEEK A FORM OF ENERGY THAT IS NOT DESTRUCTIVE TO THE AIR, WATER, AND LAND WHICH WE REQUIRE FOR SURVIVAL. AT THIS STAGE IN OUR (OVER)

TECHNOLOGICAL ADVANCEMENT COAL IS HIGHLY DESTRUCTIVE TO AIR QUALITY, REQUIRES LARGE AMOUNTS OF PRECIOUS AND SCARCE SOUTHWEST WATER, LEAVES UGLY SCARS ON THE LAND, AND IT IS EVEN CHANGING THE MEAN ANNUAL TEMPERATURE. THIS TEMPERATURE CHANGE, IF NOT HALTED, MAY EVENTUALLY DESTROY MUCH FARM LAND BY SIGNIFICANTLY ALTERING THE CLIMATE. PLEASE CONSIDER HALTING THIS PROJECT. THIS WOULD PROVIDE AN INCENTIVE TO CONSERVE ENERGY BY MAKING IT UNAVAILABLE FOR IMMEDIATE USE AND THE FUNDS AND MANPOWER COULD BE USED FOR ENERGY RESEARCH.

SINCERELY,

Tim Hubbard

Tim Hubbard, Boulder, Colorado

Response 117-1

Your views are noted and will be considered in the decision making process.

TOWN OF SPRINGDALE

"The Zion Park City"
 SPRINGDALE, UTAH
 August 20, 1980

Morgan Jensen
 District Manager
 Bureau of Land Management
 P.O. Box 724
 Cedar City, Utah 84720

Subject: Allen Warner Valley Power Project.

Dear Mr. Jensen,

As the mayor and city council of Springdale, we are addressing the following problems concerning the proposed construction of the Warner Valley plant:

- 1.) We are extremely concerned about the possible damage to our water tables and aquifers. We are in the process of developing our water plans to provide our community with water. We feel this project could threaten our future growth as well as our present needs.
- 2.) Springdale is surrounded on three sides by Zion National Park. We feel strongly that emissions from the Warner Valley plant will violate the Class I air quality values of the park. Scenic views at this time are unsurpassed because of our clean air and distance visibility. This may not be possible with the air deterioration that could result if this plant is built in the proposed location.
- 3.) Our primary industry in Springdale is tourism. Tourism is our primary source of revenue and employment. We believe the operation of this plant would seriously damage our commerce.

In closing, we can see few benefits to Southern Utah by having this plant located in Warner Valley. Springdale has limited space for industry and our obvious potential is to develop tourism. Alternative energy sources such as solar, wind, geothermal and conservation can ensure a future of prosperity. Why should Utah-the driest state in the nation-export its limited water supply and get little energy in return? Why should we give up our clean air so California and Nevada can continue to waste our natural resources?

We would like to request that this letter be included in the final environmental statement and decision making process for the Allen-Warner Valley Energy System.

Please keep us informed as to any new developments in this project.

Helen Excell
 Helen Excell, Mayor

Frank Urcan
 Frank Urcan, Councilman

John Bratton
 John Bratton, Councilman

Dennis Johnson
 Dennis Johnson, Councilman

Mayor and Councilmen of Springdale, Utah

Response 118-1

Effects of the Warner Valley water and power projects on the water resources at Springdale have not been addressed specifically in the EIS. However, since flows of the North Fork of the Virgin River are not affected by this project, recharge to aquifers in the Springdale area should not be affected. In addition, the Utah State Engineer will assess the impacts of groundwater pumping in the Alton lease area (which could affect flows of the East Fork of the Virgin River) prior to granting water rights to the proponents.

Response 118-2

Your views are noted and will be considered in the decision making process.

119

2048 La Cresta Drive
Salt Lake City, Utah 84121
943-6913

August 21, 1980

Mr. Morgan Jensen
District Manager
Bureau of Land Management
P.O. Box 724
1579 North Main Street
Cedar City, Utah 84720

RE: The Allen-Warner Valley Energy System

Dear Mr. Jensen:

Please include this letter in the Final Environmental Statement for the Allen-Warner Valley Energy System in Utah and Nevada.

I appreciate the opportunity to be involved in the decision making process and would appreciate receiving a copy of the Final Environmental Statement when released.

After carefully studying the numerous issues that face us today I have decided that the proponents proposal for a strip mine near Bryce, a power plant near Zion, a power plant near Las Vegas, a dam on the Virgin River, a coal slurry line and power lines is the most expensive and least desirable alternative presented in the Draft Environmental Statement. I strongly feel that Alternative 5 is the most preferable alternative, from both a consumers and environmental point of view. I urge your office to select Alternative 5 as the preferred alternative.

I am discouraged with the quality of the Draft Environmental Statement, and feel that a supplemental statement is warranted. The supplement should include data on air pollution and the demands and alternatives to coal fired generation. The afore-mentioned are lacking in the Draft Environmental Statement. Additionally, the impacts of the coal mine at Alton should be included in the supplemental statement. To exclude the Alton Mine is to piece-meal the decision making process. The USGS Environmental Statement that covers the Alton coal field is a poor excuse for a decision making document.

I thank you for the opportunity to be involved in the decision making process and look forward to hearing from your office in the near future.

Sincerely,

Brian Beard

Brian Beard, Salt Lake City, Utah

Response 119-1

A supplement to the draft EIS is not considered necessary because a worst-case analysis was included for the environmental impact areas of major concern, including air pollution. Alternative 5 (Energy Conservation and the Development of Alternative Energy Sources) was analyzed as a viable alternative to coal-fired generation. As shown in the final EIS, updated information from studies completed for the OSM draft Southern Utah Petition Evaluation Document (USD1, 1980) is used as a basis for evaluating the environmental impacts of proposed mining at the Alton coal lease area and replaces information previously obtained from the Development of Coal Resources in Southern Utah Final EIS (USD1, USGS, 1979).

Information in this final EIS and the OSM EIS will be collectively used in a decision on the AWV energy system, including the Alton coal lease area.

338

120

487 11th Ave.
Salt Lake City, UT 84103

Mr. Morgan Jensen
District Manager
Bureau of Land Management
P. O. Box 724
1579 North Main Street
Cedar City, Utah 84720

Dear Sir;

1 I am writing to express my extreme opposition to the
Allen-Warner Valley Energy System. If one were to try to devise
a plan to destroy the natural beauty of Zion and Bryce National
2 Parks, one could not conceive of a more efficient plan. Locating
a strip mine within four miles of Bryce Park will obviously
destroy the air quality and vistas from the rim of the Park;
any blasting associated with the mining could destroy the
limestone formations themselves. Locating the Warner Valley
Plant where it is now proposed will jeopardize the air quality
standards of Zion Park and also ruin vistas in that area. A
large amount of water will also be needed for these projects—
if it is drawn from these arid regions it could damage the ground
water capabilities and springs in the area permanently.

There are better alternatives to the AWVES. Under the
plan preferred by the California Energy Commission, the
Warner Valley Plant could be eliminated altogether, and the
difference made up by conservation and cogeneration. Coal for
the Allen Plant could be supplied from central Utah coal fields.
I therefore ask you to select Alternative 5—The Energy Conser-
vation and Alternate Energy Sources Alternative when making your
recommendations. I also ask that this letter be included in the
final environmental statement and decision making process for the
AWVES.

Thank you,

Ronald L. Doshier
Ronald L. Doshier

Ronald L. Doshier, Salt Lake City, Utah

Response 120-1

The Alton East coal lease area, located approximately 4 to 6 miles from Yovimpa Point, would have an impact on air quality and vistas if the project would be implemented. Studies conducted as a result of the OSM draft Southern Utah Petition Evaluation Document (USDI, 1980) indicate that blasting associated with mining would have no effects on the geological formations of the park. For more details see the Recreation and Aesthetics sections of Chapter 4 in the final EIS.

Response 120-2

Your views are noted and will be considered in the final decision making process.

IN REPLY REFER TO

N3615(492)

United States Department of the Interior

NATIONAL PARK SERVICE
ROCKY MOUNTAIN REGIONAL OFFICE
655 Purfet Street
P.O. Box 25287
Denver, Colorado 80225

AUG 20 1980

Memorandum

To: State Director, Bureau of Land Management, Utah

From: Regional Director, Rocky Mountain Regional Office AUG 25 1980

Subject: Comments on Draft Environmental Impact Statement
for the Allen-Warner Valley Energy System

We appreciate the opportunity to review the draft Environmental Impact Statement for the Allen-Warner Valley Energy System.

It is our position that the unresolved issues surrounding this project are of major significance, and constitute a serious threat to the park values and resources of both Bryce Canyon and Zion National Parks. Most of the unresolved issues surround the impact of the Warner Valley Power Plant or full development of the Alton mine on Bryce Canyon and Zion National Parks. Therefore, we must oppose any alternative which incorporates these elements until full analysis and disclosure has been made.

As stated in our memorandum of June 13, 1980, we believe that a supplemental draft document should be prepared as major issues become resolved. Additionally, we object to BLM's intent to withhold identification of an agency-preferred alternative until publication of a final EIS for this project. We believe BLM should not recommend an agency-preferred alternative until all of the resource data gaps are known, thoroughly addressed, and subjected to adequate public comment.

Of particular importance to the National Park Service is the resolution of the following issues: (1) compliance with Prevention of Significant Deterioration (PSD) regulations including visibility; (2) the effect of the proposed project on both surface and underground water, and its spin-off effect on flow maintenance and threatened and endangered species of the Virgin River, and (3) the petition to declare the Alton coal field unsuitable for mining.



Save Energy and You Serve America!

State	City	Year	1970	1980	1990
Alaska	Barrow	1970	1	1	1
Alaska	Barrow	1980	1	1	1
Alaska	Barrow	1990	1	1	1
Alaska	Barrow	2000	1	1	1
Alaska	Barrow	2010	1	1	1
Alaska	Barrow	2020	1	1	1
Alaska	Barrow	2030	1	1	1
Alaska	Barrow	2040	1	1	1
Alaska	Barrow	2050	1	1	1
Alaska	Barrow	2060	1	1	1
Alaska	Barrow	2070	1	1	1
Alaska	Barrow	2080	1	1	1
Alaska	Barrow	2090	1	1	1
Alaska	Barrow	2100	1	1	1
Alaska	Barrow	2110	1	1	1
Alaska	Barrow	2120	1	1	1
Alaska	Barrow	2130	1	1	1
Alaska	Barrow	2140	1	1	1
Alaska	Barrow	2150	1	1	1
Alaska	Barrow	2160	1	1	1
Alaska	Barrow	2170	1	1	1
Alaska	Barrow	2180	1	1	1
Alaska	Barrow	2190	1	1	1
Alaska	Barrow	2200	1	1	1
Alaska	Barrow	2210	1	1	1
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Alaska	Barrow	2230	1	1	1
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Alaska	Barrow	2250	1	1	1
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Alaska	Barrow	2270	1	1	1
Alaska	Barrow	2280	1	1	1
Alaska	Barrow	2290	1	1	1
Alaska	Barrow	2300	1	1	1
Alaska	Barrow	2310	1	1	1
Alaska	Barrow	2320	1	1	1
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Alaska	Barrow	2340	1	1	1
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Alaska	Barrow	2360	1	1	1
Alaska	Barrow	2370	1	1	1
Alaska	Barrow	2380	1	1	1
Alaska	Barrow	2390	1	1	1
Alaska	Barrow	2400	1	1	1
Alaska	Barrow	2410	1	1	1
Alaska	Barrow	2420	1	1	1
Alaska	Barrow	2430	1	1	1
Alaska	Barrow	2440	1	1	1
Alaska	Barrow	2450	1	1	1
Alaska	Barrow	2460	1	1	1
Alaska	Barrow	2470	1	1	1
Alaska	Barrow	2480	1	1	1
Alaska	Barrow	2490	1	1	1
Alaska	Barrow	2500	1	1	1
Alaska	Barrow	2510	1	1	1
Alaska	Barrow	2520	1	1	1
Alaska	Barrow	2530	1	1	1
Alaska	Barrow	2540	1	1	1
Alaska	Barrow	2550	1	1	1
Alaska	Barrow	2560	1	1	1
Alaska	Barrow	2570	1	1	1
Alaska	Barrow	2580	1	1	1
Alaska	Barrow	2590	1	1	1
Alaska	Barrow	2600	1	1	1
Alaska	Barrow	2610	1	1	1
Alaska	Barrow	2620	1	1	1
Alaska	Barrow	2630	1	1	1
Alaska	Barrow	2640	1	1	1
Alaska	Barrow	2650	1	1	1
Alaska	Barrow	2660	1	1	1
Alaska	Barrow	2670	1	1	1
Alaska	Barrow	2680	1	1	1
Alaska	Barrow	2690	1	1	1
Alaska	Barrow	2700	1	1	1
Alaska	Barrow	2710	1	1	1

National Park Service, Denver, Colorado

Response 121-1

Refer to Response 22-1 concerning the unresolved issues surrounding the project.

Response 121-2

A supplemental draft document has not been prepared. New information (see Response 22-1) is incorporated into the final EIS. The agency preferred alternative is identified near the end of Chapter 2.

Response 121-3

Refer to Responses 22-1 and 111-8 regarding decisions on PSD and additional air quality information. Also refer to Response 6-4 and the updated Water Resources section under Alternative 1 in Chapter 4 of the final EIS. The biological opinion concerning aquatic endangered and threatened species is included in Appendix 15 and has been utilized in the analysis in the Wildlife: Species of Concern section under Alternative 1 in Chapter 4 of the final EIS. See Response 22-2 regarding the Alton coal lease area unsuitability petition.

It is our opinion that EPA Region VIII will not be able to issue a PSD permit for the project because of inadequate data to determine whether or not the Class I increment can be met at Zion National Park. Although the proponent has performed atmospheric tracer studies, the NPS does not believe these studies to be conclusive. These inadequacies also preclude the determination of the frequency of occurrence of the visibility impairment identified in the draft Environmental Statement. Attached is recent NPS correspondence to EPA on this issue, as well as back-up technical documentation substantiating the inadequacies of the study.

4 The issue of hydrological impacts is an important one to the National Park Service, local land owners, environmental groups and those parties participating in the scoping meetings for this project. The EIS does not fairly represent the uncertainties surrounding this issue, and down-plays the significance of the conflicting data on this issue. For example, the EIS does not discuss the findings of the Kaiparowits Coal Development and Transportation Study (August 1980) which indicate the possibility of dewatering the Virgin River. We believe that long-term pumping tests are appropriate in this instance, and that the likelihood of contamination of ground water supplies and increasing of sediment load of surface waters needs to be further analyzed.

5 The National Park Service takes exception to this document's reliance on the Southern Utah Coal EIS's analysis of the potential impacts of mining coal from the Alton area. Both the Kaiparowits Coal Development and Transportation Study, which attributes a 50% visibility reduction at Zion National Park to operation of the Warner Valley Power Plant, and the analyses currently being performed for the Alton unsuitability petition yield more current information.

Attached are our page specific and technical comments for your consideration.

Lorraine Mintzmyer
L. Lorraine Mintzmyer

Enclosures

Response 121-4

The Kaiparowits Coal Development and Transportation Study (USDI, 1980) and several other studies have been completed since the draft AWV EIS was released. These documents are discussed in the revised Water Resources sections in Chapter 4 of the final EIS. Additional information on the effects of mining on water resources discussed is in the OSM Southern Utah Petition Evaluation Document (USDI, 1980).

Response 121-5

The results of the Kaiparowits Coal Development Study and the analyses for the Alton unsuitability petition were not available for the draft AWV document and this was recognized in the draft document. BLM has replaced the Southern Utah Coal EIS analysis with appropriate material from the studies performed for the Alton unsuitability petition in the final EIS.

General Comments

- 6 [1. The DEIS does not include a comparison of each of the six alternatives using the criteria previously identified for selection of an "environmentally preferred" alternative.
- 7 [2. The DEIS does not discuss mitigation in sufficient detail. It cannot be considered acceptable or complete until this is done.
- 8 [3. The DEIS relies heavily on the tracer studies conducted at the Warner Valley site by the North American Weather Consultants under contract to Stearns-Roger Engineering Corporation. The NPS has significant concerns about these studies, as outlined in the enclosed correspondence.
- 9 [4. The DEIS does not include a discussion of what criteria will be used to ultimately determine the agency-preferred alternative.
- 10 [5. The FEIS or supplements to the DEIS should include a discussion on the means by which potential conflicts between the "agency preferred" and the "environmentally preferred" alternatives will be resolved.

Page-Specific Comments

- | | <u>Page</u> | |
|----|-------------|---|
| 11 | S-8 | Discussion of impacts on Kane and Washington Counties does not identify potential impacts on socio-cultural habits. |
| 12 | S-12 | Alternative three discuss any possible impacts on Bryce Canyon National Park resulting from coal mining in the Alton fields and the trucking of coal to the Warner Valley Power Plant. |
| 13 | S-5 | It seems that the statement "if this capacity would be utilized to reduce oil-fired generation, the electric consumer would benefit from a more stable fuel price structure and the nation would benefit from a reduction in foreign oil imports" also belongs at the end of the discussion of Alternative 5. |
| 14 | 1-8 | Throughout the DEIS, the Reid-Gardner Power Plant is referred to, but it is not mentioned that studies have not been done to determine the possible cumulative effects of this plant with the Harry Allen Plant. |
| 15 | 2-2 | Table 2-1 does not show water usage for construction, etc. Perhaps the volume needed cannot be measured in acre-feet, although some indication is necessary. The same comment is true for tables shown on pages 2-23, 2-29 and 2-37. |

Response 121-6

To reflect your comment, the Comparative Analysis of Alternatives section is included in table 2-19 of the final EIS.

Response 121-7

Appendix 6, Standard Operating Procedures is revised in the final EIS to reflect your comments.

Response 121-8

BLM did not indicate any of the tracer study results in the impact analysis in the draft EIS. The draft EIS only mentions that the study was conducted. None of the conclusions by North American Weather Consultants were incorporated in the draft EIS. BLM believes that the tracer studies do not give sufficient information with respect to impacts from the Warner Valley powerplant, especially as it relates to Zion National Park. Conditions at the time of the studies were not necessarily representative of worst-case conditions.

Response 121-9

CEQ regulations do not require the identification of an "agency preferred alternative" in a draft EIS if one or more does not exist. This selection process is actuated by the lead agency (BLM). However, an agency preferred alternative appears in the final EIS near the end of Chapter 2.

Response 121-10

The environmentally preferred alternative is not identified in the final EIS. The environmentally preferred alternative will, however, be identified and discussed in the Secretary of the Interior's Record of Decision.

Response 121-11

See the Socioeconomics sections in Chapter 4 of the final EIS concerning potential socioeconomic impacts.

Response 121-12

As stated in the Summary of the final EIS, the discussion under Alternative 3 "focuses on those impacts which would be substantially different from those discussed under Alternative 1." The impacts to socioeconomics under Alternative 3 would be significantly different from those under Alternative 1 because of the trucking of coal from Alton. These socioeconomic impacts are summarized under Alternative 3 in the final EIS Summary.

Response 121-13

The text of the Summary is changed in the final EIS to reflect the comment.

Response 121-14

Refer to Response 87-2 concerning the possible cumulative impacts mentioned.

Response 121-15

Tables 2-1 and 2-8 indicate the anticipated construction needs for water for the Warner Valley and Harry Allen powerplants. Information on the construction water needs for other project elements has not been provided by the applicants. It is probable, however, that the amounts would be less than those shown for the powerplants. To reflect your comment, tables 2-5 and 2-12 are revised to indicate the construction water requirements of the two powerplants.

- 16 [2-58 Table 2-20 shows that air quality will be degraded at Zion National Park under Alternative 1, but not under Alternative 3. Both alternatives include the development of the Warner Valley Power Plant and should have a similar effect on Zion. This table should also discuss air quality effects on Bryce Canyon National Park. Also, the vegetation/wildlife section in the summary should discuss impacts on Bryce Canyon, including possible encroachment of non-native plants from revegetation. Recreation and aesthetics should be addressed more fully in the EIS since tourism is of such great importance in the vicinity of proposed project.
- 17 [
- 18 [
- 19 [3-3 Add Cedar Breaks National Monument to the areas recommended for redesignation to Class I air quality status.
- 20 [3-4 Discussion of siting and feasibility of new sources in non-attainment areas needs to be clarified. It is not necessarily true to say that "no significant increases in these pollutants can be caused by new or existing source in a 'non-attainment' area".
- 21 [3-5 Show Cedar Breaks National Monument on map as a potential Class I air quality area.
- 22 [3-25 Note that the National Park Service is monitoring from Bryce Point as well as Yovimpa Point.
- 23 [4-2/3 The DEIS states that acid rain would not be a significant problem because of the lack of contributing sources, although it does not detail the possible effects that acid rain could have on the mainly-limestone formations, other formations, rivers, lakes, or the overall ecosystem. The document should mention that there currently are a significant number of coal-fired generating stations in the four corners area, and address the possible cumulative effects of these facilities in terms of acid precipitation.
- 24 [4-6 The air quality/visibility discussion here references outdated material, and should identify more recent information. This could include the Kaiparowits Coal Development and Transportation Study (August 1980), work done under the BLM-EPA-OSM-NPS memorandum of understanding for the Alton Unsuitability Petition, or work conducted privately by Utah International, Inc. or Nevada Power Company.
- 4-9 Visibility calculations cited in this section are inaccurate and outdated. See previous comment.
- 25 [4-11 Most values listed in Table 4-3 are not calculated, and should be, for Zion National Park.
- 26 [4-26 The section "Ground Water Pumping for Coal Slurry" does not discuss the possibility that lowering the water table within the Navajo Sandstone formation may eventually affect the water level of the east fork of the Virgin River. The likelihood of this impact is discussed

Response 121-16

The EPA Valley model indicates that Class I increments would be exceeded at Zion National Park under Alternative 3, and visibility degradation may still be a concern. No increments would be exceeded at Bryce Canyon; however, visibility would also be of concern. Table 2-19 has been amended to include potential visibility impacts at Zion and Bryce Canyon National Parks from Alternative 3.

Response 121-17

The text is changed to reflect your comment. See the Vegetation: Species of Concern section under Alternative 1 in Chapter 4 of the final EIS.

Response 121-18

To reflect your comment the Recreation and Aesthetics sections of Chapters 3 and 4 have been revised in the final EIS to include summaries of mine-related impacts (visual intrusion, noise, blasting, etc.) on Bryce Canyon National Park.

Response 121-19

The text is revised to include your comment. Refer to the Air Quality section of Chapter 3 in the final EIS.

Response 121-20

New industrial resources would be regulated by the requirements of the Clean Air Act for nonattainment areas. This includes the application of "lowest achievable emission rate" as well as trade-off requirements. The emission trade-off regulation requires that a new source that has significant emissions of pollutants for which the area was designated nonattainment must secure emission reductions at least equal to the proposed increased emissions of nonattainment pollutants from the new source. However, the likelihood that pollution concentrations would remain constant or decrease will depend on whether the schedule and requirements of the State Implementation Plan would be met.

Response 121-21

Figure 3-1 in the final EIS is revised to reflect your comment.

Response 121-22

To reflect your comment the Air Quality sections are revised in the final EIS to include the information on the visibility monitoring at Bryce and Yovimpa Points.

Response 121-23

The contributions of coal burning powerplants increased acidity of precipitation and the resulting effects on the ecosystems are not well understood. Any possible effects would vary considerably, depending on specifics of the ecosystem, pollutant emission rates, and meteorological conditions. Even though high concentrations of atmospheric sulfur compounds have been shown to cause decomposition of limestone and sandstone, Class I increments must be met at Bryce Canyon and Zion National Parks, and therefore, any effects from sulfur compounds would be extremely small. BLM does acknowledge that cumulative effects could become significant at some time if uncontrolled.

Your comment mentions other coal-fired powerplants regarding cumulative effects. Perhaps more important are the metropolitan areas of Los Angeles, Phoenix, and Las Vegas, and copper smelters, which are large SO₂ sources located in the southwest.

Response 121-24

Refer to Response 121-5 concerning the visibility calculations. The discussions in Chapter 4 Air Quality have been amended to include the most recent available information. The visibility calculations given for the Alton mine in the draft are replaced in the final EIS with the more recent EPA/OSM/BLM/NPS study by SAI and the UII study by ERT.

in the Kaiparowits Coal Development and Transportation Study (August 1, 1980). More detailed studies should be made on the draw-down and recharge capabilities of the Navajo Sandstone aquifer.

4-70 Same comment as pg. 4-26 above applies to the water resources discussion in Table 4-7.

27 4-74 Visibility impacts identified for coal mining in the Alton coal field again reference work done in the Southern Utah Coal EIS. The accuracy of this data has been challenged by several parties. Newer data should be referenced, as discussed in previous comments.

28 4-87 Water resources: see same comment as 4-70 above.

Response 121-25

EPA calculated only 24-hour average concentrations using the Valley model. This model is generally not applicable to averaging times of less than 24 hours. However, according to the averaging method used in the Valley model, the 3-hour average concentrations would be higher than the 24-hour value by at least a factor of 4. Thus, the 3-hour value would be at least 36 $\mu\text{g}/\text{m}^3$, which also exceeds the Class I increment.

ERI calculated only 3-hour average concentrations. The maximum 24-hour concentration was not calculated because of lack of data with respect to persistence of meteorological conditions. However, the 3-hour concentration is 3.2 $\mu\text{g}/\text{m}^3$. It is probable that the 24-hour value would be less than 3.2 $\mu\text{g}/\text{m}^3$.

The particulate concentrations for Zion National Park were calculated by scaling according to the emission rates. This results in a 24-hour particulate concentration of 1.8 $\mu\text{g}/\text{m}^3$ according to the EPA model, well within the Class I increment of $\mu\text{g}/\text{m}^3$.

Response 121-26

Refer to the updated Water Resources sections in Chapter 4 of the final EIS for a discussion of this comment.

Response 121-27

To reflect your comment, updated information is included in the Air Quality sections of Chapter 4 in the final EIS.

Response 121-28

Refer to the updated Water Resources sections of Chapter 4 in the final EIS for a discussion concerning your comment.



United States Department of the Interior

NATIONAL PARK SERVICE
ROCKY MOUNTAIN REGIONAL OFFICE

635 Parfet Street
P.O. Box 25287
Denver, Colorado 80225

IN REPLY REFER TO:
N3613 (RMR)D

Mr. Roger L. Williams
Regional Administrator
Environmental Protection Agency
Region 8
Suite 103
1860 Lincoln Street
Denver, Colorado 80295

Dear Roger:

We have recently reviewed the North American Weather Consultant Report on Warner Valley Tracer Studies and Zion National Park and express our concerns that the study was not acceptable to the National Park Service.

The report indicates that the studies were well conducted with good quality control; however, we question the conclusions, based on the fact there was very little information base. We cannot concur that the proposed Warner Valley Power Plant will not cause the PSD Class I increments to be exceeded. The duration of the study was too short (8 days) and it was during a time of the year when meteorological conditions are not expected to be favorable for causing worst-case impacts.

Weather records for Zion National Park have been taken for many years, and the records indicate that during the study period storms are common and wind shifts are frequent as fronts pass. We do not feel that one study can adequately address year-around weather patterns. The report indicates that Warner Valley/Zion Canyon experiences constant down-canyon drainage flows. Down-canyon drainage flows occur during the night, yet the prevailing wind pattern for Zion National Park is up-canyon. To study good drainage flow situations, we would recommend additional study periods, especially during the September to December periods when inversion conditions prevail.

The tracer study contains no data which supports the decisive conclusions that operation of the proposed Warner Valley Power Plant will not cause significant air quality impacts on Zion National Park. The plume rise analysis and the plume trajectory speculation are good arguments, but

Year of
the
Visitor

overall the study is inadequate and additional studies at the site would be necessary to reach a credible conclusion.

Therefore, we strongly urge you to deny issuance of any PSD permit for the Warner Valley Power Plant until the company can supply adequate and sufficient data upon which to base sound judgements. Zion National Park is a mandatory Class I area, and, therefore, we must be assured that no degradation of air quality will occur, and this report does not offer that assurance.

Sincerely yours,

Lorraine Mintzmyer
L. Lorraine Mintzmyer
Regional Director
Rocky Mountain Region

B3615

June 3, 1980

Memorandum

To: Regional Director, Rocky Mountain Region
From: Superintendent, Zion National Park
Subject: Warner Valley Tracer Study

We have reviewed the "Plume Simulation Tracer Study and Modeling Evaluation for the Proposed Warner Valley Generating Station" which was prepared by North American Weather Consultants.

While the report is impressive in content and volume, we have some doubts about its validity. One would believe from reading this report that under stable air conditions the Warner Valley/Zion Canyon area experiences constant down-canyon drainage flow. While this drainage flow does occur during nighttime hours, the prevailing winds for Zion are up-canyon.

The plume simulation tracer study at Warner Valley was conducted during a time of year when storms are common and wind shifts are frequent as storm fronts pass. Information in the report shows frequent wind shifts during testing.

When the study was underway, North American Weather Consultants made almost no effort to keep park personnel informed of what was occurring. When we tried to stay abreast of their testing by accompanying them to the monitoring stations, we were always told there was no room to travel with them by helicopter.

At the time the investigators of the project left the park, they told park officials they had not gotten the right weather conditions and only one nighttime release had been made. We were never aware of any daytime releases, and it is generally very obvious when helicopters are flying in the canyon.

As the manager of Zion National Park and the one charged with the responsibility of assuring no degradation of Zion's Class I air quality occurs, I seriously question the value of this report and believe we should raise a question of doubt with the Environmental Protection Agency.

John O. Lancaster

John O. Lancaster

cc:
Asst. to the Reg. Dir., Utah



United States Department of the Interior

NATIONAL PARK SERVICE
WASHINGTON, D.C. 20240

IN REPLY REFER TO:

N3616(492)

Memorandum

To: Warner Valley Power Plant File
From: Meteorologist, Air Quality Office, Denver
Subject: Review of North America Weather Consultant (NAWC) Report
on Warner Valley Tracer Studies

I have reviewed the subject report and submit the following comments.

Review of the report indicates the studies were well conducted with good quality control, however I have serious reservations concerning the conclusions. As I indicated in the meeting on May 15, 1980, very decisive conclusions were reached with regard to the predicted air quality impacts which the proposed Warner Valley Power Plant would have on Zion National Park with very little information. In my opinion the results of the tracer studies do not support the conclusion that the proposed power plants' operations will not cause the PSD Class I increments to be exceeded. Only one case had wind directions favorable for transporting a plume in the direction of Zion National Park, which is insufficient to reach such a conclusion. The duration of the studies was too short (eight days) and during a time of year when meteorological conditions are not expected to be favorable for causing worse-case impacts.

One of the study objectives was to evaluate use of the EPA Valley Model which has been used to assess impacts on Zion National Park. The Valley Model uses the vertical dispersion coefficient (σ_z) and uses sector averaging for defining lateral plume dimensions. On the day in which winds were favorable for transport toward the park, vertical plume dispersion was not measured. Therefore, evaluating the Valley Model without vertical dispersion measurements is not justified. Furthermore, with stability classes being defined by the AEC classification system, the vertical dispersion measurements appear to show good agreement with Turner Workbook values and do not show significant enhancement as stated. In fact, Case 103 shows σ_z values less than the Turner Workbook "F" values with the AEC classification system showing "E" stability. Therefore, the studies

do not support enhanced vertical dispersion above the complex terrain in this area. The measurements do indicate greater lateral dispersion, especially for stable cases, but as pointed out earlier the Valley Model uses sector averaging. An unanswered question is whether the measured σ_y values would give lateral plume dispersion greater than that determined from sector averaging. The measurements tend to support Pasquill's recommendation of including an additional term in the lateral dispersion to allow for plume meandering as a function of averaging time or distance of transport.

It is interesting to note that the comparison of Valley Model predictions with measurements indicated the Valley Model to over-predict by a factor a little greater than two. With the small amount of data from this study, this is a reasonably good comparison even with some uncertainty of whether the measurements were made at plume centerline.

Based on one day of observations (June 21, 1980) the report indicated that the plume would probably never break through the drainage environment into flow toward the park. The drainage flow on this day is given to be approximately 2000 feet deep. Such a deep drainage flow is extremely rare and expected only in very deep, narrow canyons with a large drainage basin supporting the drainage flow. Based on Figure 4.1-1 it is my opinion that the so-called deep drainage flow on this day is not just drainage flow, but is gradient flow even as deep as the height of the 700 mb surface. I contend that a good drainage flow situation was not observed during the entire study. To study such a case would require additional measurements during the months of September, October, November, and December as has been recommended before.

The climatological portion of the study reviews five years of historical data and claims that inversions which meet the AEC "F" stability temperature change with height criteria do not exist. However, during the tracer studies vertical dispersion values were measured which were less than the Turner Workbook "F" values even with the study lasting for only eight days. Based on this small amount of data one may conclude that determining frequency of occurrence of elevated inversion which match the AEC "F" stability criteria is insufficient to justify saying a plume transported toward the park will always disperse at a greater rate than the dispersion determined from the "F" dispersion curves. One may conclude from the data that plumes in the area disperse vertically less than the AEC classification system would indicate and in reality higher concentrations may result than would be predicted if this classification scheme is relied upon.

Included in the report, but independent of the tracer studies, is an analysis of plume rise predictions and speculation on a meandering plume path, both of which would support less air quality impacts on Zion National Park. In my opinion these are good arguments which deserve more careful study but there is still a lack of meteorological data in the area to support the arguments and justify stating that the proposed project

would not cause significant air quality impacts in Zion National Park. The study does not provide information to obviate uncertainties in the plume rise calculations and plume path toward the park.

In summary, the tracer study results contain no data which supports the conclusion that operation of the proposed Warner Valley Power Plant will not cause significant air quality impacts on Zion National Park. The plume rise analysis and the plume trajectory speculation are good arguments, but additional studies at the site would be necessary to reach a credible conclusion.

Donald Henderson

122

Dear Sir: I will send you details.

I visit Southern Utah every year - sometimes more than once each year. Its quality has already declined too far in the past 20 years. The last thing that region needs is more industrial development.

Therefore, I say "NO" to the Allen-Warner Valley Energy System. NO coal mines and NO Warner Valley Power Plant. The Harry Allen plant might be alright provided its emissions are converted to fertilizer and not thrown up into the atmosphere. Yes - it can be done - and profitably. If you are interested,

Larry Parker, Oakdale, California

Response 122-1

Your views are noted and will be considered in the decision making process.



123

SCOTT M. MATHERON
GOVERNOR

STATE OF UTAH
OFFICE OF THE GOVERNOR
SALT LAKE CITY

84114

August 22, 1980

Mr. Gary Wicks
State Director
Bureau of Land Management
136 East South Temple
Salt Lake City, Utah 84111

Dear Gary:

I appreciate this opportunity to provide comments on the Allen-Warner Valley Draft Environmental Impact Statement. As you know, the State of Utah has exhibited a significant interest in this project for many years; the development contemplated by this proposal has important implications for Southern Utah. We have also been strong supporters of this project, provided of course, that all substantive environmental standards are met and existing water rights are fully protected.

Accordingly, we prefer alternative 1, the applicant's proposal. Again, the two important caveats remain; we assume that all substantive environmental standards can be met and all existing water rights and uses must be fully protected. Unfortunately, our support is qualified because many uncertainties about this complex project remain. We anticipate that these questions will be resolved as the permitting process progresses. I would urge that any BLM decision not pre-empt these processes, particularly the Alton unsuitability petition and the states review of water right applications. Decisions should not be made without a full and fair review of all available information.

Finally, I should note that these comments are only one part of Utah's participation in the Allen-Warner Valley process. All decisions regarding the allocation of water for the purposes of energy development will be made by the State Engineer. A federal presence is not appropriate or desirable. We intend to participate fully in the Office of Surface Mining review of the Alton unsuitability petition. The State will also review and comment upon the California Public Utilities Commission review of this project. Our comments will be forwarded to the BLM for your information.

Mr. Gary Wicks
August 22, 1980
Page Two

To avoid duplication, most of the comments are directed toward individual project elements and are applicable across the range of alternatives. Comments on the Harry Allen plant and the need for power in Nevada and California are limited, since these issues are more appropriately reviewed by those states.

Sincerely,

Scott M. Matheron
Governor

SMM:jb

Office of the Governor, State of Utah

Response 123-1

Your comments are noted. Significant new information concerning unresolved issues is included in the final EIS (refer to Response 121-3). BLM expects that the remaining unresolved issues will be resolved during the permit process and that BLM decisions will not pre-empt other ongoing processes. BLM also recognizes the State Engineer's role in the appropriation and allocation of water involved in the ANV system.

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STATE OF UTAH
COMMENTS
Draft Environmental Statement
Allen-Warner Valley Energy System

General Comments

-- The State of Utah prefers alternative 1, as proposed by the applicant, provided that all substantive environmental standards are met and existing water rights and uses are fully protected. This alternative provides the best mix of benefits to Utah citizens while meeting the needs that led to this proposal. Many uncertainties in the review of project elements remain. We expect that these questions will be resolved as the permitting process progresses. Any final Utah position, particularly where the state exercises legal and regulatory authority, will be based upon a full and fair review of all available data.

-- The State of Utah applauds the philosophy presented in alternative 5. The progressive use of energy conservation and the use of alternative energy resources must be the cornerstone of any long-term energy strategy. However, this approach cannot obviate the need for conventional energy development. Conservation and renewable energy resources are not a reasonable alternative to the Allen-Warner Valley project.

2 In the St. George area, the State of Utah will continue to encourage investments in energy conservation where they are economical or will be in the future. (note incentives on page 3-43). We are also pursuing an intensive effort to educate people about the merits of energy conservation programs and energy audits. These programs are acting now to slow the rate of growth in energy demand and deserve more attention in the discussion of alternative 5. Still, the need for additional energy remains and the Allen-

Response 123-2

According to CEQ regulation 1502.14(c), BLM must consider reasonable alternatives outside of its jurisdiction. The city of St. George does not at present have a progressive energy conservation program, nor have they intensively studied the possibility of developing alternative energy sources in the St. George service area. The success of such a program would depend on the priority given it by those involved, including individuals and local and State governments. For a discussion of the need for energy, refer to the revised Purpose and Need of Proposed Project section in Chapter 1 of the final EIS.

Warner Valley proposal is a reasonable attempt to meet that need.

Finally, BLM has no ability to implement the conservation alternative or to guarantee that it would be implemented in the event that permits for the proposal were denied.

Alton Coal Mine

-- The State of Utah has adopted a policy of diversifying coal development throughout the state so that environmental and socioeconomic impacts of additional coal development are not concentrated in one region. Our support of development of the Alton leases is an important part of this policy. This policy position is accurately characterized on page 4-116 and the data in that analysis supports our position. Additional demand in the Central Utah region in the 1985-90 time frame would mean that "the likelihood of 'boom-town' problems developing in the area would be very high."

It is important to note the role of uncertainty in socioeconomic problems. We anticipate that Central Utah will be able to produce coal at the levels currently planned. BLM should note that new planning, a careful analysis of transportation facilities, additional federal and industry assistance, and sufficient lead time to open mines and train miners will be required if the Harry Allen demand is shifted from Alton to Central Utah.

3 -- Alternative 4 projects roughly twice the demand for Central Utah coal analyzed in alternative 3, yet BLM concludes that socioeconomic impacts in that region "would be essentially the same." That is not an adequate discussion of potential impacts.

4 -- Are the service limits in Kane County (p. 3-31) a result of an inadequate tax base and limited economic opportunities? In the long run, energy development may relieve, rather than increase these problems.

Response 123-3

Both alternatives utilized the high level scenario as developed in the Development of Coal Resources in Central Utah Final EIS (USDI, USGS, 1979). This scenario assumes that the coal mined in the central Utah region would have a market, whether to the AWV energy system or to other buyers. As such, the cumulative impacts to the region would be the same for both alternatives, although those attributable solely to the AWV energy system's portion would be less under Alternative 4 than under Alternative 3.

Response 123-4

Impacts and benefits could be equalized over the long run. However, as with rapid coal development in Wyoming, the short-term period where population growth exceeds infrastructural capacities is the one in which the most significant impacts occur.

- 5 -- Do the population figures in Table 2-20 (p. 2-59) represent county totals or the population increase attributable to the Allen-Warner Valley system?
- 6 -- The assessment of water resource impacts (pp. 4-24 to 4-29) generally overstate the impacts that may be assumed based on available data. The impact analysis should also be carried one step further: what effort will projected flow reductions or spring interference have on wildlife, agriculture, land use, etc.?
- 7 -- Mitigation of the impacts of reduced wildlife habitat is not adequately addressed. The Division of Wildlife Resources calculates that 15,656 acres of wildlife habitat would be lost permanently or over the long run (40 years). Pinyon-juniper types in surrounding areas could be treated and reclaimed for higher vegetation value as one mitigation alternative.
- Alton Coal Slurry Pipeline
- 8 -- The EIS should reflect that the State Engineer must find that the proposed export of Utah water is beneficial to Utah citizens before development can proceed on the Alton-Allen slurry. With that addition, the statement on page 4-29 is substantially correct. The State Engineer will require the applicant to produce sufficient data to determine the impacts on existing water rights and uses before the Utah International water right applications are acted upon. No decision has been made on these applications.
- 9 -- Rapidly changing economics may mean that alternatives originally dismissed as too costly may now be reasonable. Specifically, we request that BLM review all available data on 1) rail as an alternative to slurry transportation; 2) Lake Powell as a source of slurry water; 3) the Warner Valley Reservoir as a source of slurry water, and 4) Kaiparowits coal and rail transport as an alternative to the Alton coal slurry. The state would like to review BLM data

Response 123-5

Population figures in table 2-19 are the projected increases in county population attributable to project components in the county plus secondary and induced growth for each alternative.

Response 123-6

In the draft EIS, the impacts due to mining and ground water withdrawals were based on research and literature available prior to publication. Impacts in the final EIS have been updated to include recent research by OSM (1980), Inform (1980), and others. Refer to Response 22-1.

Response 123-7

Wildlife would be displaced from their habitat for a period of 2 or 3 years in areas where powerlines or pipelines would be constructed. These areas would be revegetated immediately following construction, which would create a diversity of habitats. Vegetation species favorable to wildlife would be included in a seeding mixture and would mitigate the loss of wildlife habitat.

As proposed in Alternative 1, approximately 15,000 acres would be lost in the long-term, however, this loss is not expected to be significant and would not affect any areas of critical wildlife habitat.

Response 123-8

The Ground Water Pumping for Coal Slurry section, Water Resources under Alternative 1 in Chapter 4 is revised in the final EIS to reflect your comment.

Response 123-9

Alternatives analyzed in the EIS were selected during the scoping process as required pursuant to the CEQ regulations for implementing NEPA. The rationale for omitting certain alternatives from further consideration is represented in Appendix 2. The reasonableness of a railroad to transport Alton coal to proposed markets (Harry Allen and Warner Valley powerplants) is further discussed in the Scoping Process section of Chapter 1 of the final EIS.

available on these alternatives and the analysis suggested by Appendix 2.

10 -- The Utah Division of Parks and Recreation and the Utah Division of Wildlife Resources must be involved in the siting, construction and timing of any slurry line. Specifically, the proposed 3' depth of the line may not be viable within Coral Pink Sand Dunes State Reserve. Changing topography due to the winds acting upon the sandy surface could quickly render the line unprotected presenting liabilities to both the state and the owner.

11 Impacts could be reduced on critical wildlife areas (winter range, calving and fauning areas, grouse strutting, breeding and brooding areas, desert tortoise habitat, raptor breeding and brooding, etc.) if work in these areas could be scheduled outside critical time periods for specific wildlife activities. The Division of Wildlife Resources is anxious to map such areas and recommend acceptable time periods for construction.

Similarly, the Division of Parks and Recreation can suggest appropriate measures to minimize impacts on park operations and users. A more detailed siting proposal will be required.

Warner Valley Power Plant

12 -- While the need for power is the dominant factor in utility decision-making and in the processes of state utility regulatory bodies, it is clearly outside the authority of the Bureau of Land Management and the question is too prominent in the draft EIS. (Compare, for example, the IPP EIS). The decisions that determine the need for the bulk of the Allen-Warner Valley project will be made by the Nevada Public Service Commission and the California Public Utilities Commission and no amount of analysis can give BLM a legitimate role in that process. The Utah role is also severely limited, and we recognize that.

Response 123-10

State of Utah will have siting authority within Coral Pink Sand Dunes State Reserve, and can require the pipeline to be buried to a depth of their specifications.

Response 123-11

UDWR would be consulted as to the location of critical wildlife areas and any recommendation made would be considered. This has been included as a mitigating measure in Appendix 6 of the final EIS.

Response 123-12

CEQ regulations for implementing NEPA include provision 1502.13, which states "The statement shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives, including the proposed action."

This analysis in the EIS depended on the position of CPUC and the Nevada Public Service Commission concerning the need for the proposed energy project. Because the Utah Public Service Commission has no jurisdiction in such a position, the analysis relied on an independent assessment by BLM and input from the participating Utah utility (city of St. George).

As for the City of St. George, it is not uncommon for municipalities to market power in anticipation of future needs. BLM has no appropriate role in making that utility policy decision. The BLM conclusion that St. George does not "need" the power from the Warner Valley plant ignores a range of factors that are included in the utility decision including independence, economics and future plans and policies.

We are not advocating the construction of unnecessary and uneconomic power plants; clearly need for power is a key factor. However, it is simply outside the authority of the BLM and the draft EIS suggested unwelcome inroads into those decision processes.

13 -- Page S-15 suggests that capacity is available to St. George under Alternative 4. How can this be when only the Harry Allen plant is constructed?

-- What are the costs associated with lay-off power from IPP? (p. S-16). What is the probability that it will be available? Will it be a long-term, dependable power supply?

14 Doesn't continued purchase from Utah merely shift environmental and socioeconomic impacts to another part of the state (Central Utah)? If BLM suggests continued purchases from U.P. & L. the incremental environmental impacts of that policy should be analyzed.

15 -- The State of Utah has a statutory role in air quality permitting and should be referenced on p. S-17.

16 -- The CEC staff recommendation was not endorsed by Commission. The discussion on p. 1-2 should be completely eliminated in the final document.

17 -- Development of the MX missile (p. 1-8) would also dramatically increase the electricity requirements of this region. That possibility, and any additional data that is available, should be discussed in the final EIS.

Response 123-13

The city of St. George would not receive generating capacity from the Harry Allen powerplant proposed in Alternative 4. The Summary is changed in the final EIS to reflect your comment.

Response 123-14

It is likely that layoff power from IPP could be made available, but it would not be a long-term firm source. It is also likely that such power would be more expensive than other sources. The purchase of power from UP&L would not necessarily shift socioeconomic burdens to other parts of the State since the most probable source of such power would be from UP&L's share of IPP, which if State policy allowed, could have Wyoming as a coal source rather than central Utah.

Response 123-15

The Summary in the final EIS is changed to reflect your concern.

Response 123-16

The Purpose and Need of Proposed Project section of Chapter 1 in the final EIS is updated to reflect the Commission's official statement on the AWV project.

Response 123-17

The discussion of possible impacts of the proposed MX missile system and the AWV project should be covered in the MX EIS, which was not available at the time of the preparation of the final AWV EIS.

- 18 -- Visitation figures for the National Parks are interesting (p. 3-24) but cloud the real issue: what is the usage of the viewpoints where visibility impacts might be anticipated. The importance of visibility impacts cannot be fully derived absent that information.
- 19 -- As noted in the discussion of alternative 5, the programs referenced on p. 3-38 are provided by the Utah Energy Office on a statewide basis.
- 20 -- Without information regarding the frequency, extent, time of occurrence, and duration of impairment, the simulated photographs on pp. 4-17 and 4-19 are misleading and uninformative. BLM should make an attempt to provide that information or the photographs should be deleted from the final EIS.
- 21 -- While no developments are currently proposed which would compete for the available PSD increment (p. 4-23) the Warner Valley plant will foreclose future development in the Washington County area. BLM should attempt to identify and illustrate the limits on future development.
- 22 -- Alternative 3 (p. 2-28) represents an interesting scenario for coal and power development in southern Utah, yet the key factor, economics, is missing. Does this represent a reasonable, or even possible restructuring of the applicant's proposal? Would a 250 MW plant in the Warner Valley be economical? Some preliminary answers should be provided in the final statement.
- Warner Valley Reservoir
- 23 -- Historically, it has not been difficult to find beneficial uses for the water provided by storage projects in Utah. Accordingly, the assessment of "need" (p. 1-3 and others) is misleading. BLM implies that all the water developed by the Warner Valley reservoir would not be used. All water not used immediately for municipal and industrial purposes would be used in the interim for agriculture.

Response 123-18

The visitation figures for Observation and Watchman Points in Zion National Park and Yovimpa Point in Bryce Canyon National Park are included in the final EIS to reflect this concern.

Response 123-19

The information provided by your comment is included in the discussion of Alternative 5, Existing Legislation and Incentives Favoring Conservation and the Development of Alternative Energy Sources in Chapter 3 of the final EIS.

Response 123-20

Refer to Response 101-1 for a discussion on this subject.

Response 123-21

The Air Quality sections in Chapter 4 are revised in the final EIS to reflect this comment that consumption of the PSD increment by the Warner Valley powerplant could foreclose future development of any other projects in the area. It is presently the responsibility of EPA to allocate and track increment with input from the individual States. When State Implementation Plans are approved, it will be the responsibility of the States. Presently, increment is allocated on a first-come, first-served basis.

Response 123-22

Reduced size powerplants and alternate transportation systems are considered in the final EIS as a means of avoiding some of the potential environmental impacts of the proponents' proposal. An initial, topical screening of alternatives identified Alternative 3 as being within an acceptable economic feasibility range. An indepth economic study of the alternative has not, however, been performed.

Response 123-23

CEQ guidelines (1502.13) require an analysis of the underlying purpose and need of the proposed action. The BLM assessment concludes that the water would not be needed for municipal and industrial (culinary) uses, which are the primary reasons according to the water project applicants for constructing the project. BLM does not intend to make decisions as to water allocations and use, which are the expressed right of the State.

Moreover, water allocation and use decisions are appropriately made by the State of Utah, not the BLM. As a policy, the Utah Board of Water Resources supports maximum control of water resources at a particular reservoir site, knowing that water which is developed will be available for future use as yet unforeseen.

-- Neither the text (p. 2-12, p. 2-33) nor figure 2-7 make a distinction between water presently diverted and water proposed to be diverted. This would be helpful. (18,400 acre-feet is the average present level of diversion.)

-- The 56,100 acre-foot diversion (p. 4-29) was a compromise figure developed to provide protection for the endangered woundfin while maintaining a reasonable level of water deliveries for projected uses. This was not intended to be totally compatible with the 49,400 acre-foot delivery schedule proposed by the Washington County Water Conservancy District.

-- It is extremely unlikely that the change in operation at the Hurricane Diversion would result in significant long-term changes in downstream sediment concentration (p. 4-35).

-- The conclusion that proposed diversions will decrease future hydroelectric production is extremely speculative (p. 4-33). Changes in salinity, and the impact on water uses is equally questionable (p. 4-38).

-- There is significant professional disagreement on the impacts on the woundfin population would be under various levels of diversion (p. 4-42). It would seem only fair to admit that disagreement and cite a reference where information on the other viewpoint may be obtained. (Winget, Dr. Robert N. 1977. Impact of the Warner Valley Water Project on Endangered Fish in the Virgin River. Vaughn Hansen Associates, Salt Lake City.)

Response 123-24

Presently at the Hurricane and LaVerkin diversions, approximately 17,200 acre-feet are diverted annually (Chapter 3, Water Resources) for irrigation and powerplant use. Under Alternative 1, approximately 56,100 acre-feet would be diverted for irrigation, powerplant, and the Warner Valley water project. Of this amount, 18,400 acre-feet would be available for the Hurricane and LaVerkin areas, an increase of 1,200 acre-feet annually. This would be due to the ability of the Warner Valley reservoir to supply supplemental water to the Hurricane Fields when low flows would be less than the area's diversion rights (personal communication, Dr. Norm Stauffer, September 17, 1980). For further information see the Water Resources sections in Chapters 3 and 4 of the final EIS.

Response 123-25

Your comment is correct, and although it is not compatible with the proposed water uses or with the USFWS biological opinion, it is still the flow regime proposed by the applicant (Washington County Water Conservancy District). See the Warner Valley Water project section under Alternatives 1 and 3 in Chapter 4 of the final EIS.

Response 123-26

D.B. Simons, in Appendix D of the Hydrology Chapter of Vaughn Hansen (1977) states that "... sediment could alter the river environment for short periods of time, but a comprehensive analysis of the total problem shows that the impact is trivial except locally and the impact is only significant during periods of low flows." See the revised Virgin River System section of Chapter 3 in the final EIS.

Response 123-27

Table 4-5 in the final EIS indicates that the CP National water right of 100 ft³/s for hydroelectric power generation is presently available for diversion approximately 9 months annually. Under Alternative 1, this water right would be satisfied only about 4 months of each year. Presently CP National is diverting about 40 ft³/s on the average for power generation annually. Changes in salinity are based on the reduction of "dilution" water on the saline LaVerkin Springs water.

Response 123-28

Professional disagreement on the impacts to the woundfin minnow populations have stemmed from the lack of sufficient data. The USFWS has recently completed extensive studies concerning the flow requirements for the woundfin minnow. This information is reflected in their most recent biological opinion which is included in the final EIS in Appendix 15.

Figure 3-7 shows the general distribution of the woundfin minnow. While some stretches of the Virgin River are dry parts of the year, woundfin minnows may inhabit these stretches during periods of higher water.

Figure 4-9 reflects the new USFWS biological opinion on the general impacts that would result from the implementation of Alternative 1.

Additionally, the map on p. 3-20 misrepresents the range of the woundfin. Some stretches of the river are nearly always dry and hardly qualify as habitat (see Vaughn Hansen report).

The map on p.4-44 overstates the impact of the diversion and the conclusions in the Fish and Wildlife Service Biological Opinion. The revised opinion which is expected shortly should supercede this analysis, and our comments. We hope for the opportunity to comment on BLM's interpretation of that opinion before the final statement is written.

-- Alternative 3 (p. 4-97) assumes a reservoir designed to yield only 24,000 acre-feet annually. At this time, such an alternative does not seem compatible with the goals and objectives of the state regarding development and use of water.

Response 123-29

The 24,000 acre-feet average annual reservoir yield was based on a diversion of flow above that required by the endangered woundfin minnow in the USFWS biological opinion of April 3, 1978. We acknowledge that there is a conflict between Federal law and State of Utah goals in this alternative flow regime.



United States Department of the Interior

FISH AND WILDLIFE SERVICE
AREA OFFICE COLORADO-UTAH
1311 FEDERAL BUILDING
125 SOUTH STATE STREET
SALT LAKE CITY, UTAH 84138

IN REPLY REFER TO: ES

August 22, 1980

MEMORANDUM

TO: State Director
Bureau of Land Management
Salt Lake City, UT

FROM: Area Manager, USFWS
Salt Lake City, UT

SUBJECT: Preview of the Draft Environmental Statement for the Allen-
Warner Valley Energy System in Utah, Arizona, Nevada, and
California (EC 80/32)

This is in response to your June 23, 1980, letter transmitting the sub-
ject draft statement.

General Comments

We have reviewed the draft statement and find that it is inadequate in
several respects regarding analysis and discussion of project impacts on
fish and wildlife resources.

The Council on Environmental Quality (CEQ) final regulations implement-
ing the National Environmental Policy Act (NEPA) state in Section 1500.1(b),
"NEPA procedures must insure that environmental information is available
to public officials and citizens before decisions are made and before
actions are taken. The information must be of high quality. Accurate
scientific analysis, expert agency comments, and public scrutiny are
essential to implementing NEPA." Section 1500.1(c) further states, "The
NEPA process is intended to help public officials make decisions that
are based on understanding of environmental consequences, and take
actions that protect, restore, and enhance the environment."

As written, we do not believe that the draft statement provides decision-
makers and the public with a full discussion and comparison of potential
fish and wildlife impacts associated with each alternative.

Section 1502.25(a) of the CEQ final regulations directs that "To the
fullest extent possible, agencies shall prepare draft environmental
impact statements concurrently with and integrated with environmental
impact analyses and related studies required by the Fish and Wildlife
Coordination Act (16 U.S.C. Sec. 470 et. seq.), . . . the Endangered
Species Act of 1973 (16 U.S.C. Sec. 1531 et. seq.), and other environ-
mental review laws and executive orders." It appears that the schedule

U.S. Fish and Wildlife Service, Salt Lake City, Utah

Response 124-1

A Fish and Wildlife Coordination Act (FWCA) Technical Assistance Report
was furnished to BLM October 1980 and is included in Appendix 15 and refer-
enced in the Wildlife section of Chapter 4. This report contains a discus-
sion of mitigating measures recommended by USFWS. Consultation requirements
under FWCA were fulfilled by receipt of the report.

During BLM's scoping process for the AWP project, no agency or the
public identified wildlife (except threatened and endangered species) as a
major area of concern. Therefore, the analysis in the draft EIS only
included a general discussion and analysis of wildlife (except threatened and
endangered species). Clearly identified areas of concern are indicated and
will, in the Technical Assistance Report, receive further consideration in
the decision making process, with consultation under the FWCA being reini-
tiated as specific decision making actions take place. Additional stipula-
tions or recommendations may be required prior to issuance of a 404 permit.

of preparation and review of the draft statement could have been more closely coordinated with FWS. The completion of our FWCA report and the Section 7 consultation process will follow the review period for the draft statement by approximately three weeks. Although information resulting from these efforts will be incorporated into the final EIS, it would have been more useful to the public in their evaluation of project impacts during the draft statement review.

Section 1502.14(f) of the CEQ final regulations implementing NEPA state that the Environmental Impact Statement (EIS) is required to "include appropriate mitigation measures not already included in the proposed action or alternative." Further, Section 1502.16(h) requires a discussion of the "means to mitigate adverse environmental impacts." In the case of Texas Committee v. Alexander, 12 ERC 1676 (1973, unofficially reported) the court ruled that an adequate mitigation plan must be included in an EIS and that compliance with the Fish and Wildlife Coordination Act (FWCA) is a prerequisite to the validity of an EIS. Without inclusion of the means and measures needed to compensate for fish and wildlife losses associated with the proposed Allen-Warner Valley Energy System, the requirements of NEPA and the CEQ will be violated.

The draft indicates that a BLM preferred alternative will be identified in the final EIS. The BLM preferred alternative should include an adequate mitigation plan developed jointly among the Fish and Wildlife Service (FWS), the affected state fish and wildlife agencies, BLM, and the applicant.

In Summary the draft statement is inadequate in its lack of quantification in the description of the affected environment and impacts thereto as related to fish and wildlife. Several times the draft refers to consultation with FWS in accordance with the FWCA, implying that we will provide some of this quantification. By memorandum dated March 5, 1980, you requested "... consultation and recommendations on fish and wildlife resources for the proposed Warner Valley Water Project." However, there was no request for technical assistance to conduct specific vegetative or wildlife inventories. Without such a request, our Coordination Act responsibility is limited to evaluating BLM's assessment of project impacts on fish and wildlife resources, and providing recommendations to prevent or compensate for resource losses or to enhance these resources. A formal Memorandum of Understanding (MOU) between BLM and FWS, signed May 27, 1980, outlines this somewhat limited responsibility in Section V, "General Principles and Procedures."

Section V stipulates that in multiple-use planning, "BLM is responsible for assuring the collection, inventory, and subsequent analysis of fish, wildlife, vegetation, and other resource related data on the public lands."

The draft statement specifically indicates that FWS will determine the significance of the effects on downstream wetlands resulting from the proposed diversion of water from the Virgin River. The draft assumes that the diversion will have some effect on downstream wetlands. However, there is no way to evaluate just what the effect might be. No

information is provided on the types of wetlands involved, the acreage, or existing wildlife use of them. Without this information, it will be difficult if not impossible to identify appropriate mitigation. This information should be provided to us prior to completing our FWCA report.

2 The draft statement also may be inadequate in accordance with Section 1502.25(b) of the CEQ final regulations which states that, "The draft environmental impact statement shall list all Federal permits, licenses, and other entitlements which must be obtained in implementing the proposal. If it is uncertain whether a Federal permit, license, or other entitlement is necessary, the draft environmental impact statement shall so indicate." The draft does not identify the need for a Section 404 permit (Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1341)) in the construction of a new Hurricane Diversion. It appears that such a permit would be required from the U.S. Army Corps of Engineers for "discharge of fill material" into the Virgin River. If a permit is required, FWS will review the application in accordance with the FWCA. The final EIS should discuss the Section 404 permit requirement if it is determined that this Federal permit must be obtained to implement construction of the diversion.

3 The draft statement does not address the potential visual and air quality impacts of the Harry Allen powerplant and associated electrical transmission system on the Desert National Wildlife Range and its proposed wilderness designation. The southeast boundary of the refuge is within five to ten miles of the proposed powerplant site and appears to be within range for some level of impact. The final EIS should discuss any potential effects on the refuge.

Although we have identified several areas of inadequacy in the draft statement, it appears that all may be resolved in the final EIS. We appreciate the opportunity to comment on the draft statement.

As per our prior arrangements we will be providing our FWCA report and biological opinion (Section 7) by September 15, 1980.

Robert H. Shiloh

Response 124-2

The need for a permit from the Army Corps of Engineers for discharge of dredged material into the Virgin River is identified on the first page of Appendix 5 in the final EIS.

Response 124-3

The Desert National Wildlife Range is designated as a Class II PSD area. As discussed in the Air Quality section under Alternative 1 of Chapter 4 in the final EIS, all Class II PSD requirements and NAAQS must be met before a permit is issued by EPA.

125

Memorandum

To : James A. Burns
Assistant Secretary
Resources Agency

Date: September 26, 1980

Telephone: ATSS ()
()

From : California Energy Commission
1111 Howe Avenue
Sacramento, 95825

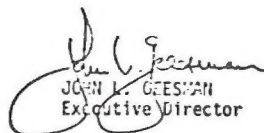
Subject: ALLEN WARNER VALLEY ENERGY SYSTEM — DEIS SCH 80062220

The staff of the California Energy Commission (CEC) reviewed the above subject document and forwarded comments to Mr. Morgan Jensen, Bureau of Land Management (BLM) on August 21, 1980.

I am forwarding these comments to you along with the updated version of the Decade of the Sun report (refer to August 21, 1980 letter to Mr. Jensen).

We look forward to receiving the BLM's final EIS. If you have any questions, please contact David Maul of the Engineering and Environmental Division at 920-7525.

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JOHN L. GIESMAN
Executive Director

cc: State Clearinghouse

STATE OF CALIFORNIA—THE RESOURCES AGENCY

EDMUND G. BROWN JR., Governor

CALIFORNIA ENERGY COMMISSION

1111 HOWE AVENUE
SACRAMENTO, CALIFORNIA 95825

(916) 920-6103



August 21, 1980

Mr. Morgan Jensen
District Manager
Bureau of Land Management
P.O. Box 724
1579 N. Main Street
Cedar City, Utah 84720

Dear Mr. Jensen:

In accordance with the distribution letter of June 23, 1980 (1792 AWV (U-921)), the California Energy Commission (CEC) is pleased to be able to comment on the draft EIS for the Allen-Warner Valley Energy System (AWVES). Since the California Public Utilities Commission (CPUC) is responsible for California's licensing with respect to AWVES, and is preparing its own Environmental Impact Report (EIR), we have not commented on any of the environmental evaluations in the EIS. However, the CEC is the California state agency responsible for electricity demand forecasting and is also intervening in the need portion of the CPUC's AWVES proceeding. Accordingly, we have commented on those portions of the draft EIS which address supply and demand issues for Southern California Edison (SCE) and Pacific Gas and Electric (PG&E).

In addition to our comments, we have included two CEC publications which are relevant to the question of need. We will also send you an updated version of the Decade of the Sun report cited in the draft EIS as soon as it is available (about September 1).

Finally, the draft EIS cites a preliminary April 25, 1980, CEC staff memorandum. Since then, that analysis has been updated to incorporate the most recent SCE and PG&E resource plans (June 10 and May 21, 1980 respectively). This update, which is Mr. David Marcus's testimony on behalf of the CEC given in the CPUC's AWVES proceeding, is enclosed.

California Energy Commission, Sacramento, California

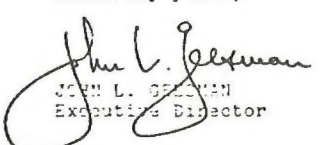
Response 125-1

The testimony on behalf of the CEC as mentioned in your comment is incorporated in the updated discussion in the Purpose and Need of Proposed Project section of Chapter 1 of the final EIS.

Mr. Morgan Jensen
Page Two
August 21, 1980

We look forward to receiving the BLM's final EIS. If you have any questions on any of our comments or any of the materials submitted, please feel free to contact either Ms. Dian Grueneich at 916/920-7744 or Mr. David Marcus at 916/920-6040.

Sincerely yours,


JOHN L. GRESHAM
Executive Director

CEC Comments on the AWEES Draft EIS

- 2 [1. Pg. S-5, line 1: Reid Gardner Units 1-3 are already operating, and Unit 4 is under construction, not just proposed.
- 3 [2. Pg. S-8, para. 5: Pp. 3-38 and 3-39 indicate that NPC and St. George use less than 10% oil, so that their shares of AWEES would contribute only minimally to oil displacement. A recent PG&E document (Column 1, Table 5 of the Testimony of PG&E witness Williams, Exh. 38, Application No. 59303, CPUC Certificate of Public Convenience and Necessity licensing proceeding, hereinafter cited as "CPUC No. 59303") shows that PG&E's resource plan for 1990 would, with the CEC forecast, result in less kilowatt hours generated at the Montezuma coal plant and Potrero synfuels plant than those plants would be capable of generating. The document implies that in PG&E's estimation only about 2/3 of PG&E's AWEES energy would displace oil and gas plants, with the other 1/3 displacing non-oil plants.
- 4 [3. Pg. S-11, para. 5: "SEC" should be "SCE". Also, see Comment 2.
- 5 [4. Pg. S-12, para. 2: See Comment 1.
- 6 [5. Pg. S-15, para. 3: See Comments 2 and 3. Also, it is unclear why St. George is included here in Alternative 4 but not under Alternative 2.
- 7 [6. Pg. 1-1, para. 4: Does St. George's announced need for 43.7 Mw by 1990 mean that 81.3 Mw of its share are unneeded even by its own opinion?
- 8 [7. Pg. 1-3, para. 1: Since May 21, 1980, both SCE and PG&E have produced new, lower demand forecasts and associated resource plans. Based on those resource plans the CEC's testimony to the CPUC was revised (see attached testimony, of David Marcus), with the result that for PG&E "493 Mw" should be changed to "453

Mw". In August, 1980, PG&E announced yet another reduction in its demand forecast. However, this latest change does not affect the CEC's position, which is based on the CEC's own adopted forecast.

8. Pg. 1-8, para. 5: "recently announced their intentions" is incorrect. PG&E's 1600 Mw Montezuma project was announced in 1977. It has completed the CEC's NOI process, with NOI approval in 1979. Filing of an AFC for final approval (an 18-month process) is tentatively scheduled for December 1980. Commercial operation is scheduled for June, 1989, 4 months before Harry Allen Unit 4. SCE's Cal Coal project is in the NOI process, with a decision due in early 1981. Operation was originally scheduled for 1985, but has been slipped to June 1991 for need and financial reasons.

9. Page 2-32: There is no mention of the Eastern Transmission System connecting Warner Valley to the Glen Canyon Dam area. The presence or absence of an Eastern Transmission system is relevant to California because it would affect both the reliability of power supply from Warner Valley to California and the potential for California surplus power purchases from the Southwest.

10. Pg. 2-46, item "1": It is not true that "only development above that already planned by the utilities could be considered as a valid alternative to the AMV project". SCE and PG&E's plans are based on their own demand forecasts, not that of the CEC, which the PUC is also using in its AMVES licensing proceeding. Since both SCE and PG&E's forecasts are higher than the CEC's adopted forecast in the 1990 time period, their resource plans may include projects which are not needed to meet demand and can be considered as valid alternatives to AMVES. For example, the CEC's testimony to the PUC considered PG&E's proposed Montezuma plant as a possible substitute for PG&E's proposed AMVES share.

Response 125-2

The Summary is changed in the final EIS to reflect this information from your comment.

Response 125-3

The information provided by your comment is utilized in the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS.

Response 125-4

The Summary is changed in the final EIS to reflect your comment.

Response 125-5

Refer to Response 125-2 which addresses this comment.

Response 125-6

The text is corrected in the final EIS to reflect the comment. The city of St. George would not receive generating capacity from the proposed Harry Allen powerplant as described in Alternative 4, Chapter 2 of the final EIS.

Response 125-7

The excess of electrical generating capacity, over and above that which St. George would use, would presumably be sold as layoff power. The assumption that this excess is not needed by 1990, even by their own assumption, is correct.

Response 125-8

The Purpose and Need of Proposed Project section in Chapter 1 is revised in the final EIS to reflect the information contained in your comment.

Response 125-9

This information was used in updating the Interrelated Projects section of Chapter 1 and in the Impacts of Major Concern section under Alternative 6 in Chapter 4 as shown in the final EIS.

Response 125-10

According to CPUC (Environmental Impact Report, 1980), surplus power is available from major power stations of the Colorado River Storage Project during average or better water years, but the lack of adequate interconnections to the California utilities precludes the use of the resource.

Response 125-11

The text is changed to reflect the comment. See the description of Alternative 5 in Chapter 2 of the final EIS.

- 12 [11. Pg. 2-46, para. 6: See Comment 10.
- 13 [12. Pg. 2-46, para. 7: See Comment 7.
- 14 [13. Pg. 2-47, Table 2-15: This table should be updated to reflect PG&E's newest resource plan. (Included in Testimony of PG&E witness Williams, Exh. 38, CPUC No. 59308). It should extend through 1991 to be consistent with the analysis of SCE (Table 2-16). Synfuels from coal and purchases should be added as PG&E-planned additions of non-oil resources.
- 15 [14. Pg. 2-48, Table 2-16: This table should be updated to reflect SCE's latest resource plan.
- 16 [15. Pg. 2-49, para. 2: An updated version of Decade of the Sun is scheduled for release at the end of August 1980 and will be sent to BLM as soon as available.
- 17 [16. Page 2-51: Additional and more recent discussions of conservation measures can be found in of PG&E, SCE, and the CEC staff submissions to the CEC's Biennial Report III proceeding (CEC Docket No. 80-58-3). Also, the testimony of the Environmental Defense Fund in the CPUC's AWVES proceeding and the recent Natural Resources Defense Council publication, Moving California Toward a Renewable Energy Future, discuss further conservation potential.
- 18 [17. Pg. 3-35, para. 2: The PUC itself (as distinguished from its staff) has officially decided to use the CEC's forecast in its AWVES licensing proceeding. (Decision No. _____).
- 19 [18. Pp. 3-36 and 3-37, Tables 3-2 and 3-3: It should be noted that the CEC's forecast is not for SCE and PG&E's "service area" but rather for a geographical area. Likewise, SCE and PG&E's own resource plans are based not on their "service area" but rather on their "planning area", which can be

Response 125-12

This comment is addressed in Response 125-11.

Response 125-13

This comment is addressed in Response 125-8.

Response 125-14

The text is updated to reflect PG&E's most recent resource plan. See the description of Alternative 5 in Chapter 2 of the final EIS.

Response 125-15

The text is updated to reflect SCE's latest resource plan. See the description of Alternative 5 in Chapter 2 of the final EIS.

Response 125-16

The updated information from this comment is included in the final EIS. See the description of Alternative 5 in Chapter 2.

Response 125-17

The discussions concerning Alternative 5 have been updated with the most recent CPUC staff technical reports and the Environmental Defense Fund's publication, An Alternative to the Allen-Warner Valley Energy System: A Technical and Economic Analysis (1980). See the discussion of Alternative 5 in Chapters 2 and 4 of the final EIS.

Response 125-18

The Purpose and Need of Proposed Project section in Chapter 1 is changed in the final EIS to reflect your comment.

Response 125-19

The Existing and Projected Energy Demand section in Chapter 3 is revised in the final EIS to reflect your comment.

quite different. The major differences between the CEC and PG&E forecast areas are:

- a. Sacramento Municipal Utility District - PG&E includes, CEC forecasts separately
- b. Modesto & Turlock Irrigation Districts - PG&E includes PG&E-served loads only; CEC counts total MID-TID demand, including that met by existing MID-TID resources (168 Mw as of 12/31/79).
- c. California Department of Water Resources (CDWR) - PG&E excludes after 4/1/83; CEC includes a large portion post 1983. (Exh. 54 of CPUC No. 59308).
- d. Cogeneration - PG&E excludes all future potential cogeneration; CEC counts 75 Mw of cogeneration

The major differences between the CEC and SCE forecasts are:

- a. CDWR - SCE excludes after 4/1/83; CEC includes 100-200 Mw for post 1983.
- b. Cogeneration - SCE counts approximately 150 Mw more cogeneration in 1991 than CEC does.

- 20 [19. Pp. 3-38 and 3-39: See Comment 2 re oil displacement.
- 21 [20. Pp. 3-40 and 3-41, Tables 3-4 and 3-5: See CPUC's draft ANVES EIR, Appendix 2, which contains more recent information.
- 22 [21. Pg. 4-33, para. 6: How many Mw of hydroelectric power would be foregone by preclusion of CP National plans for expansion of its existing power plant.
- 23 [22. Pg. 4-46: See Comment 9.
- 24 [23. Pg. 4-69, para. 1: SCE and PG&E have both testified in the CPUC's ANVES proceedings that they

Response 125-20

Response 125-3 addresses your concern about oil displacement.

Response 125-21

The information included in this comment is incorporated into tables 3-4 and 3-5 in the final EIS.

Response 125-22

Approximately 400 to 500 kW of hydroelectric power would be foregone with the preclusion of CP National's existing water right to divert an additional 60 cubic feet per second of the Virgin River. The utility is currently upgrading its canal leading to the 1,000-kW facility in order to use their full water right in approximately 5 years (personal communication, Wallace Smith, CP National, September 12, 1980).

Response 125-23

This comment is addressed in Response 125-10.

Response 125-24

The 70-percent capacity factor is used as a basis of analysis as suggested by NPC. The actual average capacity that would be maintained at either of the powerplants would depend on many factors not considered in this analysis.

expect AWTES to have an average capacity factor of 65%, not 70%. 65% is also the value generally used for future coal plants in CEC analyses. This capacity factor would result in a mean output of 1625 Mw, not 1750 Mw.

25 [24. Pg. 4-144 and 4-145:

See enclosed testimony of David Marcus.

25. Pg. 4-149, para. 5: Some specific alternatives not in current utility resource plans include:

- a. Nuclear: 477-987 Mw of capacity from the Palo Verde nuclear Units 1-3 in Arizona (planned for operation in 1983, 1984, and 1986) is or will soon be for sale. See 8/7/80 Nucleonics Week)
- b. Gas Turbines: SCE's Lucerne Valley project (1290 Mw) has as approved NOI, and an AFC is currently pending before the CEC for approval of the project as a contingency resource. The AFC decision is due in 1981.
- c. Synfuels: PG&E's Pittsburg 8-9 project (1600 Mw) has an approved NOI. No AFC has yet been filed.
- d. Other technologies: See the enclosed CEC staff report, Comparative Evaluation of Nontraditional Energy Resources

26 [27. Pg. 4-150, para. 3:

There is no federal requirement for reducing oil use below historic levels for existing power plants, nor for gas until 1990. Oil and gas used in existing plants is considered a practical alternative for future generation of electricity. Moreover, PG&E is proposing to use gas in a new power plant (Potrero 7, 378 Mw) for its first 5 years of

Response 125-25

The text is updated to reflect the information contained in this testimony. See the discussion of Alternative 5 in Chapter 4 of the final EIS.

Response 125-26

This information has been revised in the preparation of Existing and Projected Energy Sources Mix section in Chapter 3 and is reflected in the final EIS.

Response 125-27

Although the use of oil and gas will continue in the next 10 years (and beyond) to be consumed for the generation of electricity in California, the political and legal direction taken by both State and Federal governments is to decrease the use of these fuels as an energy source in the future. Refer to the Existing Legislation and Incentives Favoring Conservation and the Development of Alternative Energy Sources section of Chapter 3 in the final EIS for more information.

operation. Also, the California gas utilities project very substantial availability of gas for power plants in the 1980's especially after 1985. See, the 1980 Gas Export submitted to the CPUC.

- 28 [27. Pg. 4-150, para. 4: It is not true that hydro plants have low reliability. They often have low capacity factors, and they often have dry-year dependable capacity below their installed capacity. Neither is the same as low reliability.
- 29 [28. P. 4-150, para. 5: See Comment 25, item d.
- 30 [29. Pg. 4-150, para. 6: The Cal Coal project is in licensing, not just "under study". The NOI was filed with the CEC in December 1979. Also, NPC is currently building the Reid Gardner 4 project in partnership with the CDWR, and will have access to 225 Mw of peaking capacity from Reid Gardner 4, according to its Participation Agreement with the CDWR (DWR Contract #B53372).

Response 125-28

The text is changed to reflect the comment. See Alternative 6, Chapter 4 of the final EIS.

Response 125-29

The text is updated to reflect the information contained in this testimony. See the discussion of the California utilities in Alternative 6, Chapter 4 of the final EIS.

Response 125-30

The text is updated to reflect your comment. See the discussion concerning the California utilities in Alternative 6, Chapter 4 of the final EIS.

CALIFORNIA ENERGY COMMISSION

NEED FOR PGE AND SCE PARTICIPATION IN THE
HARRY ALLEN-WARNER VALLEY ENERGY SYSTEM

PACIFIC GAS AND ELECTRIC COMPANY AND
SOUTHERN CALIFORNIA EDISON COMPANY
APPLICATION NO. 59308

David Marcus
Sacramento, California

(Revised in accordance with oral testimony
given July 16, 1980, originally dated May 22, 1980)

Background

Southern California Edison Company (SCE) and Pacific Gas and Electric Company (PG&E), along with two out-of-state participants (Nevada Power Company and the City of St. George, Utah), propose to construct, operate, and maintain a coal-fired electric generating system consisting of: a 500 megawatt (MW) generating station to be built near St. George, Utah (the Warner Valley site), a 2000 MW generating station to be built near Las Vegas, Nevada (the Harry Allen site), a coal mine in Utah to supply the fuel (the Alton Coal Fields), two slurry pipelines to transport coal from the mine to the generating stations, and transmission lines to deliver the power to the service areas.

Participant shares in AWVES are as follows:

Harry Allen	(2000 MW)	Warner Valley	(500 MW)
SCE	920 MW	SCE	125 MW
PG&E	920 MW	PG&E	125 MW
Nevada Power		NPC	125 MW
Company (NPC)	160 MW	City of St.	
		George, Utah	125 MW
Total participant shares in AWVES:		PG&E	1045 MW
		SCE	" "
		NPC	285 MW
		St. George	125 MW

Summary of Proposed Position

The following determination of PG&E and SCE's need for the project is based on the findings and policies adopted by the CEC in December, 1979, in its Second Biennial Report. Section 25309 states that the Report is a

comprehensive document that is to "provide the basis for state policy and actions in relation hereto, ...". While the CEC did not directly address the need for the AWVES in the Biennial Report, I believe the following analysis follows directly from the findings and policies set forth in the document.

Briefly, this analysis concludes that:

1. There is an aggregate need for additional capacity of 7011 MW for PG&E and 6804 MW for SCE over the 1979-94 period (using CEC area definitions) (BR II, pp. 45).
2. The FUC should use the CEC Biennial Report planning criteria in evaluating resources to meet this need. While coal can be used to meet this need, conservation, hydro, geothermal, cogeneration, wind, other renewable resources, and resources fueled by clean synthetic fuels if available should be given preference over direct-fired coal. (BR II, pp. 2, 47).
3. Current utility plans contain sufficient preferred resources that, if constructed, they would reduce PG&E's need for power from AWVES to 493 MW. SCE's need would be at least its proposed share of 1045 MW.

The above determinations set forth the maximum reasonable need; actual need would be less if conservation, cogeneration, geothermal, hydroelectric, synthetic fuels, or other preferred alternatives to direct-fired coal generation are developed at a level in excess of that in utility plans.¹

¹ A list of potential additional supply and conservation measures is set forth in Appendix A.

Summary of Methodology

Pursuant to Public Resources Code section 25309(b), the CEC has already determined that up to 18,500 Mw of additional capacity is needed statewide through 1991. (Biennial Report II [hereinafter cited as BR II], pp. 2, 3, 48.) The CEC has specified that the PG&E area needs up to 7,011 Mw (BR II, p. 48) and the SCE service area up to 6,604 Mw (BR II, p. 48).

The CEC concluded that this amount of additional capacity is needed for four reasons: growth in demand, compensation for facility retirements, replacement of power currently transferred from the Pacific Northwest, and the necessity to displace utility oil and gas use by up to approximately 50 percent by 1991. (BR II, pp. 2, 47.)

However, determination of the need for a certain amount of additional capacity is only the first step in assessing the need for a particular new facility. Chapter IV of the Second Biennial Report explicitly sets forth not only the numerical basis to be used by the state in determining need for new generating facilities, but also the policies and criteria adopted by the Commission for use by the state in evaluating the need for such projects. (These policies are also summarized in Chapter I.) As stated in Chapter IV, the CEC is required by law to balance specified state interests in establishing the official basis for planning and certifying electric facilities. These interests include "state and service area growth, maintenance of a sound economy, public health and safety, environmental protection and conservation of resources, as well as traditional supply and demand considerations." (BR II, p. 39.) The Commission's extensive Biennial Report proceedings reviewed each of these factors and the Report discusses the Commission's key findings in each of these areas (pp. 35-46). In general, the CEC concluded that:

3.

In the Commission's judgment, the state must meet its need for new electric generating facilities . . . by approving a mix of direct-burning coal power plants, derived-fuel plants, geothermal plants, cogeneration and renewable energy sources such as wind, hydroelectric, and biomass facilities. The predominant energy sources in this mix through 1991 will be coal, cogeneration, and geothermal, with wind beginning to play a significant role in the late 1980's. A mix is necessary because the environmental and health consequences likely from extensive use of direct coal are unacceptable, and because there are long-term economic and environmental benefits to the state in developing and using renewable energy sources." (p. 48.)

The CEC, therefore, determined that a reasonable balance of state interests will be promoted by applying the following general planning criteria in determining need for new facilities. The criteria relevant to AWTES are:

1. Utility supply plans and Commission decisions should give first priority to geothermal, cogeneration, and renewable energy sources, followed by clean synthetic derived-fuels such as methanol and synthetic natural gas.
2. Utility resource plans and Commission siting decisions should anticipate a 50 percent reduction in oil and gas use in California power plants by 1991. The state should therefore authorize utilities to construct the facilities necessary to achieve this reduction, subject to the availability of environmentally suitable sites, the financial abilities of project sponsors, and the economic impacts on ratepayers.

² The CEC further noted that achieving this goal was conditional on the continuing availability of energy from the Pacific Northwest. (BR II, p. 2.)

4.

3. The Commission sees the need to approve, on a contingency basis, sites for approximately 2000 MW of combustion turbines for peaking capacity.
4. The Commission will approve proposals to repower existing oil-fired facilities with natural gas or clean synthetic fuels provided that environmental and health and safety standards are met.
5. Additional utility interconnections are needed.
6. Facilities older than 45 years should not be depended upon to operate for more than 15 percent per year and are expected to be retired as new capacity is developed.
7. To the extent that conservation and preferred alternatives cannot meet new capacity needs, the Commission will approve a limited amount of new direct coal-fired generating capacity with advanced control technology.

These criteria have been applied in the following determination of need for AWVES. In evaluating the need in California for the capacity to be supplied by AWVES, I have assumed that, consistent with the Biennial Report, first priority for satisfying California's future needs shall be given to feasible geothermal energy, cogeneration, and renewable energy sources. I have reviewed plants under construction, in the licensing process, proposed in utility resource plans, and some potential resource additions not included in resource plans to determine how much additional capacity from preferred resources is reasonably likely to occur and therefore able to replace the need for direct-fired coal plants such as AWVES. These resources (and my reasons for assuming their feasibility) are identified below. For the most part, the geothermal, cogeneration, and renewable resources I have identified are either under construction, licensed or proposed in utilities' own resource plans.

The CEC Biennial Report identifies the potential for significantly more cogeneration, geothermal, biomass, wind, conservation, and other preferred resources than used in my analysis. It is possible that such alternatives, preferable to direct-fired coal generation, will prove feasible and reduce the need for AWVES. However, since the CEC has not yet conducted an in-depth assessment of the availability of additional capacity from these sources, I have not relied upon them in this analysis. My analysis also does not include any conservation measures not explicitly included in the CEC's adopted demand forecast, which by law includes conservation reasonably expected to occur. To the extent that new developments since the adoption of the Biennial Report have increased the expectable level of conservation, my findings need to be adjusted.

I have also accepted the CEC's determination that methanol and synthetic natural gas and other clean derived-fuels are to be accorded priority; however, to this date no facilities have been identified as certain enough within the relevant timeframe (1991) to be included within this need assessment. If, however, such facilities were identified, this assessment would need to be updated.

My analysis also conforms with the second planning criteria, in that it incorporates a 50% oil and gas reduction by relying upon the Commission identified amount of needed capacity additions. The Commission's third criterion, approving combustion turbines as a contingency, does not affect this need analysis since AWVES is neither a combustion turbine nor a contingency resource.

The Commission's fourth criterion deals with repowering existing facilities. The only repowering included in the PG&E and SCE resource plans is 215 Mw of uprating by SCE at seven different units. Since there is no information as to whether these repowerings propose to use natural gas or clean synthetic fuels, I have not included them in my analysis.

The fifth criterion deals with utility interconnections. While additional connections have been proposed (e.g. uprating the Northwest DC intertie) I have not relied upon them in my analysis because of an inability at this time to quantify the capacity and/or energy they could provide in lieu of AWES. A recent letter from Bonneville Power Administration to the California electric utilities should enable such a quantification.

Finally, I complied with the sixth criterion. I did not assume that any facility older than 45 years would be depended on to operate for more than 15 percent per year.

Utilizing the state's adopted planning criteria, I derived the maximum capacity at this time that reasonably needs to be met by direct-fired coal facilities. After considering the availability of capacity from other potential coal projects, I have concluded that current utility plans contain sufficient preferred resources that, if constructed, they would reduce PG&E's need for power from AWES to 483 Mw. SCE's need would be at least its proposed share of 1045 Mw.³

³ The need analysis indicates that SCE could utilize an even greater project share (totally up to 1197 Mw) from AWES to satisfy its future generation needs.

I. PG&E Specific Analysis

A. The CEC has already determined that the PG&E area (with SJWD, TID, MID, and parts of DWR load) needs up to 7,011 Mw of additional capacity by 1991. (BR II, p. 48.) Consistent with the Biennial Report planning criteria, this need can be supplied by the following resources:⁴

1. Resources already built or under construction total 4,037 Mw:

- a. Diablo Canyon - 2,190 Mw
- b. Helms Pumped Storage - 1,120 Mw
- c. Haas Hydro - 15 Mw
- d. Geysers 13, 14, and 17 - 355 Mw
- e. NCPA 2 Geothermal - 106 Mw
- f. Volta Hydro - 6 Mw
- g. Rollins Hydro - 5 Mw
- h. Kerckhoff 2 - 113 Mw net
- i. Geysers 18 - 110 Mw
- j. Various Cogeneration - 17 Mw

2. Resources in the PG&E planning area already in the CEC licensing process total 341 Mw of geothermal (Geysers 16, NCPA 1, SJWD 1, and DWR Bottlerock and South Geysers).

3. Additional "preferred" resources in PG&E's resource plan total 2,059 Mw:

⁴ The following projects are included in this analysis because they are either preferred alternatives (i.e. geothermal, cogeneration, biomass, hydro, and wind) to direct-fired coal or are already under construction. In addition, only those resources for which there appears a reasonable likelihood of their being on-line by 1991 have been included. Furthermore, all resources relied upon are included in PG&E's May 21, 1988 resource plan, with the exception of some TID, NCPA, SJWD, and Santa Clara resources, which are in those utilities' resource plans. A more detailed statement of the reasons for including each project in this need analysis is set forth in Appendix B.

- a. 839 Mw of cogeneration
- b. 130 Mw of solid waste combustion
- c. 705 Mw of geothermal (wild well, Geysers 19-21, SMJD 2, and 220 generic geothermal, hot water geothermal)
- d. 368 Mw of hydro (does not subtract the 123 Mw net at Oroville as done in PG&E's resource plan since it will be retained by DWR and thus serve the PG&E area as defined by the CEC)
- e. 47 Mw of wind (based on 142 Mw of non-firm capacity; countable as an oil displacer).

4. Preferred resources in the plans of other utilities within the PG&E planning area not counted by PG&E, total 61 Mw:

- a. 20 Mw of geothermal - SMJD 2 beyond the size shown by PG&E.
- b. 19 Mw of cogeneration - City of Santa Clara 2-3.
- c. 22 Mw of TID hydro.

B. The above resources, (1-4), total 6525 Mw. Given the state energy policies adopted in the Biennial Report, the above resources should first be developed to supply additional capacity before the state licenses direct-fired coal. Thus, assuming the plants in (i)-(iv) are constructed and operate, PG&E needs at most 483 Mw of additional capacity from other resources, including coal-fired powerplants.

C. PG&E has already identified in its resource plans at least 4,583 Mw to supply this 483 Mw of needed capacity:

- a. AWVES - 1,045 Mw proposed by PG&E for its contractual share
- b. Montezuma 1 and 2 - 1600 Mw for PG&E's planning area; NOI approved; AFC filing deferred by PG&E to at least December 1980
- c. Pittsburg 8 & 9 - 1,560 Mw; NOI approved; identified as a contingency resource
- d. Potrero 7 - 378 Mw; NOI approved; AFC suspended by PG&E through June 19, 1980.

D. PG&E has delayed the operation date of Montezuma 1 and 2 until July, 1989 and July, 1990. Since PG&E considers Pittsburg 8 & 9 as a contingency project, I determined that it would be inappropriate to rely upon it. Potrero 7 has already been denied "existing plant" status by the federal government under PIFUA. PG&E has stated that it plans to obtain the necessary permit for this project under PIFUA by requesting a temporary exemption based on the future use of synfuels, but has not yet filed it. Lacking such a PG&E filing to use alternative fuels, Potrero cannot be relied upon to supply additional capacity by 1991. AWVES should therefore be relied upon to supply the 483 Mw of needed capacity rather than Montezuma, Pittsburg, or Potrero.

E. Additional conservation or other preferred alternatives may be able to supply all or part of the 483 Mw. In particular, PG&E has applied to DOE for \$4 million to study the feasibility of constructing a billion-cubic-foot-per-day coal gasification facility at their Montezuma site, with the coal-derived gas to be used in up to 3500 Mw of existing oil and gas-fired boilers at PG&E's Pittsburg and Contra Costa facilities. I have assumed that PG&E will succeed in developing at least one source of synthetic fuels by 1990 not necessarily at the Montezuma site. However, I have made no determination at this time of their feasibility for supplanting AWVES.

F. Because my finding is that PG&E does not need its full proposed AWVES share of 1045 Mw, I have analyzed how much energy, as well as capacity, the resources relied upon in performing the PG&E need analysis would provide. Based on the capacity factors normally used in CEC analyses (e.g., 60 percent for nuclear, 65 percent for coal, etc.), I calculated the energy available from each generation source relied upon, and calculated the required energy generation from oil and gas-fired plants to meet total demand. In doing so, account was taken of non-firm energy sources (e.g., Pacific Northwest transfers, New Melones Reservoir at the 208 foot level) not listed in A-C above as capacity sources. This analysis showed that, for average hydro conditions, PG&E's oil and gas consumption would be reduced to about one half of its 1978 level by 1986, and would remain at that level through 1991, consistent with BR II.

II. SCE-Specific Analysis

A. The CEC has already determined that the SCE area including Anaheim, Riverside and parts of DWR) needs up to 6,604 Mw of additional capacity by 1991 (BR II, p. 48). Consistent with the Biennial Report, this need can be supplied by the following resources:⁵

⁵ As with PG&E these resources are either under construction, in licensing outside California's jurisdiction, or, with the exception of Cal Coal, preferred resources to direct-fired coal. In addition, only those resources for which there appears a reasonable likelihood of their being on line by 1991 have been included. Furthermore, with the exception of Reid Gardner coal, all resources are included in SCE's June 10th, 1980 resource plan. Appendix C discusses in detail the reasons for including each resource.

1. Resources under construction or already operational total 2,437 Mw:
 - a. Big Creek hydro - 33 Mw; operational in March 1980
 - b. San Onofre 2 & 3 - 1,760 Mw
 - c. Palo Verde 1-3 - 562 Mw SCE share
 - d. Axis - 47 Mw; already built but not yet interconnected
 - e. Reid Gardner - 25 Mw firm.
2. Resources under contract total 551 Mw:
 - i. Oroville exchange with DWR - 336 Mw
 - ii. DWR-MWD exchange - 159 Mw
 - iii. WWP Exchange - 56 Mw
3. Resources in licensing total 520 Mw:
 - i. Balsam Meadows hydro - 200 Mw
 - ii. Dinkey Creek hydro - 120 Mw
 - iii. West Side hydro - 200 Mw
4. Additional "preferred" resources in SCE's resource plan total 495 Mw:
 - i. 263 Mw of cogeneration
 - ii. 170 Mw of brine geothermal
 - iii. 63 Mw of firm wind (189 installed capacity)
5. Additional "preferred" resources not in SCE's November 2, 1979 published resource plan, but which do appear in the June 10, 1980 plan, are 321 Mw from Cerro Prieto geothermal. (A letter of intent with Commission Federal de Electricidad has been signed.)
- B. The above resources, (1)-(5), total 4,315 Mw. Given the state energy policies adopted in the Biennial Report, the above resources should first be

developed to supply additional capacity before the state licenses direct-fired coal. Thus, assuming the plants in (1)-(5) are constructed and operate, SCE needs at most an additional 2,239 Mw through 1991 from other resources, including coal-fired powerplants.

C. There are a number of possible sources in SCE's resource plan for this 2,239 Mw, totaling 3,164 Mw:

1. Intermountain Power Project - 480 Mw (Anaheim and Riverside shares - they are within SCE's service area; currently in advanced licensing process)
2. Cal Coal - 310 Mw (including SCE, Anaheim, Riverside, Colton, and the former DWR shares; in NOI process; in SCE resource plan)⁶
3. ANWES - 1,045 Mw; in licensing
4. Northwest diversity contracts and EPA exchanges - 729 Mw; while a 517 Mw existing contract expires in 1988, new contracts are included in SCE's resource plan.
5. Capacity Purchases - 330 Mw of Cholla 4 in 1984-88 time period, followed by 600 Mw of capacity purchase starting in 1989-90.

D. Capacity from IPP should be relied upon to reduce the need for ANWES both because it is in advanced licensing and because it serves LADWP and other municipal utilities, which have no other big, non-oil project to meet their late 1980's oil-reduction requirements.

E. 310 Mw of Cal Coal reduces the need for ANWES.

⁶ In the CEC Cal Coal Notice of Intention licensing proceeding, the CEC staff has proposed relying upon conservation and preferred technology alternatives (beyond those included in SCE's current resource plans) to substitute for one-third of the plant.

F. 300 Mw of transfers should be relied upon. The 330 Mw of Cholla 4 can definitely be relied upon - the contract is signed and the plant is under construction. After 1988, I assume SCE's proven success in contracting for power and its management commitment to minimizing capital investment will enable it to obtain at least one-half of its planned capacity purchase.

G. Given reliance on IPP (480 Mw), 310 Mw from Cal Coal or alternatives, and 300 Mw capacity purchases, SCE needs at most 1199 Mw of additional capacity.

H. A need is found for ANWES to supply this 1199 Mw, rather than Northwest hydro and Lucerne Valley, because:

1. New diversity contracts will not supply any energy, and thus will not contribute to meeting oil and gas displacement goals.
2. Lucerne Valley has not been formally proposed as a non-oil and gas using facility. As a peaking plant using oil or gas it would not contribute to oil displacement goals.

APPENDIX A

Potential Supply Measures of Equal or Greater
Preference Technologies than Direct-Fired Coal
Not Included in Analysis*

Name	Approximate Mw PG&E	SCE	Approximate Gwh/Yr PG&E	SCE	Possible On-Line Date
1. Cholla 4 layoff extension	0	330	0	1800	1983+
2. Continued Navajo layoff beyond current schedule	0	230	0	1300	1986
3. Cal Coal and Accelerated Alternatives	0	1150	0	7100	1984-91
4. SCE purchases from SW (non-firm)	0	0	0	4000	1980-90
5. SCE Coal Gas CC (at 40% c.f.)	0	90	0	300	1984
6. SCE Solar Ponds at Salton Sea (.2cf)	0	50	0	100	1990?
7. Synfuels for 1000 Mw of existing SCE plants (.6cf)	0	0	0	5000	1985+
8. Lucerne Valley CC with synfuels (.6cf)	0	1300	0	6800	1987+?
9. 10% increase in capacity factors at coal plants from 65% to 75%	0	0	500	2400	1991
10. Minor repowering at Etiwanda to improve oil plant efficiency - more Mw & kWh/barrel burned	0	20	0	?	1981

* Not an exhaustive list; could be extended based on new information and developments.

Appendix A (cont.)

Name	Approximate Mw PG&E	SCE	Approximate Gwh/Yr PG&E	SCE	Possible On-Line Date
11. Major maintenance & repowering at Long Beach to improve efficiency. More Mw and improved oil system kWh/barrel result	0	100	0	?	1981-82
12. White Pine Coal (shares for Anaheim & Riverside)	0	60	0	300	1990-91
13. DWR Imperial Valley Geothermal (credit 50% to SCE)	0	20	0	100	1985-86
14. Auburn Hydro	300	0	500	0	1989+
15. New Melones filled (.4cf)	120	0	300	0	1982
16. Clavey-Ward Hydro (.4cf)	400	0	1400	0	1990
17. NCPA Hydro	150	0	600	0	1984
18. Wind to CEC preferred levels (firm)	80	0- already counted	700	0	1986-91
19. Photovoltaics (.2cf)	0	20	0	40	1986+
20. Solar Thermal Electric-Barstow (.2cf)	0	10	0	10	1982
21. Solar Thermal electric (.2cf)	0	100	0	200	1990-91
22. MSW beyond utility plans to "maximum reasonable level"	0	40	0	230	

Appendix A (cont.)

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Name	Approximate Mw PG&E	SCE	Approximate Gwh/Yr PG&E	SCE	Possible On-Line Date
24. Agricultural & forestry solid waste beyond plans to "max reasonable" level	100	0	700	0	1982-91
25. SNUD 3	50	0	400	0	1984-85
26. SNUD SOFAR Hydro	110	0	150	0	1988
27. SNUD Hydro (2 projects)	20	0	30	0	1983
28. SNUD Cogeneration (2 projects)	40	0	200	0	1984
29. DWR's Honey Lake	50	0	300	0	1985
30. MID Geothermal 1&2	100	0	800	0	1985-87
31. Geysers development to "Max. reas. level", beyond plants already listed	200	0	1400	0	1985-91
32. Pittsburg and Contra Costa w/synfuels (.6 cf)	0	0	18000	0	1986+
33. Montezuma 1 (.65cf)	800	0	4500	0	1989
34. Montezuma 2 (.65cf)	800	0	4500	0	1990
35. Pitt 8 & 9 (.6cf) (synfuels)	1550	0	8300	0	1986+
36. Potrero 7 (.6cf) (synfuels)	380	0	2000	0	1986+
37. Navy geothermal at Coso	0	50	0	300	1986

Appendix A (cont.)

Name	Approximate Mw PG&E	SCE	Approximate Gwh/Yr PG&E	SCE	Possible On-Line Date
38. Private geothermal at Coso	0	100	0	600	1988-90
TOTAL	5,200*	3,700*	45,180**	30,780***	

* May not sum exactly due to rounding.

** Equivalent to the energy output of about 7,900 Mw of baseload coal plants.

*** Equivalent to the energy output of about 5,400 Mw of baseload coal plants.

APPENDIX B

Table for Listing of Various Projects in PG&E's 1989-90 Resource Plan to Meet PG&E's Need for 7011 Mw Additional Capacity Through 1991

In general, I believe that PG&E's resource plans are intended to be realistic. PG&E Vice President for Planning and Research Nelson Daines has testified under oath that the resource plan does not include every good project known about but only the best that will be necessary to meet demands. (OII 26, p. 601.) Because the CEC forecasts a need through 1991, for PG&E of 4,449 Mw less than PG&E itself anticipates (7,011 Mw versus 11,460 Mw), I have relied only on certain projects within the Company's resource plan (the January 1980 plan in PG&E's ANVES application) in making this need determination for the ANVES project. This subset of 7,011 is necessarily likelier to occur than PG&E's planned 11,460, since it avoids the risk of failure associated with the 4,449 Mw not relied upon. A discussion of the basis for my reliance for each individual project can be found below. A separate list of some potential projects not relied upon is found in Appendix A.

I. Resources Under Construction

A. Diablo Canyon nuclear project - 2,190 Mw, scheduled for operation in 1980-81.

An NRC operating license is pending, although subject to challenge on seismic safety and other grounds. Given the NRC's willingness in principle to proceed with issuance of operating licenses (as proven by the issuance of fuel loading and zero power permits to the Sequoyah, Salem, and North Anna plants in February-April 1980), there seems little likelihood that any plant-specific issues will delay operation of Diablo Canyon beyond 1985, a further 4 year delay. Additionally, a request has been filed with the CPUC to reconsider the CPCN granted for Diablo 1 and 2 in the late 1950's. If that request is granted, a delay of up to 1 year could ensue (CPCN proceedings are restricted to a 1-year period). Thus Diablo Canyon can be expected to meet part of PG&E's 7,011 Mw need.

B. Helms Pumped Storage project - 1,120 Mw, scheduled for full operation by 1982. No obstacle foreseen.

C. Haas hydro - 15 Mw, scheduled for 1981. No obstacle foreseen. Haas availability is linked to Helms construction.

D. Rollins hydro - 5 Mw, operational 1980. No obstacle foreseen.

E. Volta hydro - 6 Mw, scheduled for 1980. No obstacle foreseen.

F. Geysers 13, 14, and 17 - 355 Mw, scheduled for April and August 1980 and for July 1982. Geysers 13 is already operational.

G. NCPA Geothermal 2 - 106 Mw, scheduled for 1981-82. No obstacle foreseen.

H. Geysers 16 - 110 Mw, scheduled for 1982. No obstacle foreseen other than possible construction delays.

I. Kerckhoff 2 - 113 Mw net, scheduled for 1983. No obstacle foreseen. Net Mw rating based on adding 151 Mw at Kerckhoff 2, retiring 38 Mw at Kerckhoff 1.

II. Resources in the Licensing Process

A. Geysers 16 - 110 Mw, scheduled for 1983. In AFC process. A lawsuit over transmission lines is possible. Any lawsuit would probably contest procedures, not substance. If so, even if CEC lost a lawsuit and had to reprocess the application, I foresee no more than a 2-1/2 year delay, thus not impacting AMVES. This transmission line (Geysers to Lakeville, scheduled for completion in the summer of 1983) is necessary for all geothermal projects subsequent to Geysers 16. Its potential delay for up to 2-1/2 years, to early 1986, could delay any other geothermal project now scheduled before 1986.

B. SMUD Geo 1 - 55 Mw, scheduled by SMUD for 1983. In AFC process. Delay possible due to Geysers-Lakeville transmission line, until 1986. Note that PG&E's resource plan no longer incorporates a 6-month delay now, showing SMUD Geo 1 in 1983. Even with another year's delay, there would be no effect at all on the need for AMVES.

C. DWR South Geysers - 55 Mw, scheduled for 1983. In NOI phase. Possible delay due to Geysers-Lakeville transmission line delays (see A. above).

D. DWR Bottle Rock - 55 Mw, now scheduled for 1984. In AFC process. Delays under air quality issues were largely resolved in March 1980. Further delay possible to 1986 due to Geysers-Lakeville transmission line.

E. NCPA 1 - 66 Mw, scheduled for 1985. NOI approved. No obstacles foreseen to eventual operation. Delay possible to verify steam resources. Note that PG&E implicitly shows NCPA in its resource plan as one of two possibilities for 1987, at 55 Mw.

III. Additional Resources in PG&E's Resource Plan

A. 1061 Mw of cogeneration and solid waste combustion.

The question of reliable cogeneration in the PG&E planning area was subject to intense investigation in PUC proceedings under OII 26. Those proceedings culminated in a PUC finding that there are 2,000 - 3,000 Mw currently available in the PG&E service area, and in a penalty (not appealed) of 0.2% on PG&E's rate of return, for not proceeding fast enough with cogeneration. Given the regulatory pressure now being exerted on PG&E to accelerate its cogeneration efforts, PG&E's newly

revised rates for cogenerators offering near-marginal cost prices, and PG&E's oft-expressed conservatism as to what it incorporates in its resource plans for cogeneration,¹ it is reasonable to rely upon PG&E to achieve an average of 90 Mw per year of cogeneration in 1980-91. Furthermore, PG&E's rate analyses for the AMVES case also assume that PG&E will succeed in complying with PUC orders regarding cogeneration.

B. 725 Mw of geothermal. The major risk here is delay, not failure. There appears to be virtual unanimity that the steam resource at the Geysers will support well over 2,000 Mw.² Existing plants, plants in construction and licensing, and SMUD and PG&E's plans (through Geysers 24) would bring total capacity

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¹ During the OII 26 hearings, V.P. Daines of PG&E testified that the company: is quite "cautious [and] prudent in the amount of cogeneration we placed in the program," [p. 566] "found it prudent not to overestimate the amount of cogeneration in our resource program" [p. 565], "think[s] cogeneration will be an increasing and a continuing resource that we will be developing and bringing into our resource planning, our resource program," [p. 581] was "careful not to overestimate the amount of cogeneration for purposes of the supply plan" [p. 603], "hope[s] that more projects will come into the resource program, and as we develop them, we'll bring more in" [p. 618], is "aware that other projects, potential projects exist, but we do not . . . have . . . sufficient . . . confidence in our judgment that they would be placed in the resource plan at this time" [p. 619] although PG&E does believe that "there are . . . additional cogeneration projects over and above the amount that is in this resource program that meets [sic] the test of economics" [p. 623], and to date has "not rejected any project on the basis of economics." [P. 646, emphasis added].

² USGS - 1975 - 1730 Mw from just 70 square kilometers; CEC staff, 11/2/78, Hill to Deller memo; R.V. Beck, 2600 Mw by 1989; CFM 2 - 2450 Mw by 1988.

at the Geysers to 2,124 Mw. The CEC staff believes 2700 Mw is feasible by 1991.³ However, the drilling to 100-to 111 2010+ Mw have not yet been completed, and is the possible source of delay. Likewise, there is little if any technical dispute that a hot water resource sufficient for 150 Mw exists.⁴

Transmission line capacity depends solely on construction of the Geysers to Lakeville line discussed above under Geysers 16, which should be resolved in the spring of 1986 at the latest (see III.A. above). Need will not be an issue, since the CEC has found a need for all geothermal capacity. As far as timing, PG&E shows no steam geothermal units after 1988. Only a delay of 4 years or more would cause more than 150 Mw (the 1989-91 hot water geothermal) of the 725 Mw relied to slip out of the 1980-91 planning period.

C. 390 Mw of Hydro

Again, the major risk is delay, since various agencies (EWR, Corps of Engineers) have already identified specific sites with far over 390 Mw capacity. The CEC believes the potential is 500-650+ firm Mw⁵ just at existing facilities. The current shift is toward shortened licensing at FERC, and improved economics (e.g., payment of full avoided cost), which should accelerate

³ "Comparative Evaluation of Nontraditional Energy Resources" (p500-80-006), (CENER), 2/80, p. B1.

⁴ CENER, p. 84: USGS - 975 Mw; JPL - 2000 Mw.

⁵ CENER, p. B15.

the development of the small hydro resources. Even with a 3-year delay, only 150 Mw of hydro would shift out of PG&E's 1980-91 resources plan.

D. 47 Mw of Firm Wind Capacity

PG&E's resource plan shows 142.5 Mw of non-firm wind, with no capacity credit. Since some capacity credit is more realistic, I have used SCE's convention that 3 Mw installed is equivalent to 1 Mw firm. In energy terms only 2 Mw of wind (at 35% capacity factor) are required to exceed the output from 1 Mw of coal plant (at 65% capacity factor), so a 3 to 1 installed to firm ratio is quite conservative. In terms of likelihood of construction, PG&E plans to install only 1 wind machine before 1985. I feel confident they can proceed at this minimal level. From 1985 through 1991, PG&E's plan calls for the installation of 56 machines (based on the 1932 unit size of 2.5 Mw non-firm capacity). Given the apparent availability either now or in the very near future of multiple wind machines (i.e. the order of Hawaii Electric for 80 Mw of machines in the early 1980's), there should be no technical obstacle to PG&E's proceeding with 56 machines over a 8-year period starting in 1985.

APPENDIX C

Plan for Projects Included in Analysis
of SCE's Need for AWVES

I. Resources Under Construction

A. Big Creek Hydro - 33 Mw - scheduled 1980.

The CEC believes that this project is already operational.

B. San Onofre 2 & 3 - 1760 Mw - scheduled 1981-83.

See discussion of PG&E's Diablo Canyon plant in Appendix

B. Since SCE does not rely on any AWVES power until 1985, a slip in the San Onofre schedule of up to 3-1/2 years would not impact the need for AWVES.

C. Palo Verde 1-3 - 562 Mw SCE share - scheduled for 1983-86.

See discussion of PG&E's Diablo Canyon plant, which applies to Palo Verde 1 & 2. Palo Verde 3, not yet under construction, is thus different and quite susceptible to slippage or cancellation. However, if lack of capital or lack of load growth occurs among the Arizona participants, SCE's share of Palo Verde 3 might be increased; indeed, SCE originally acquired its shares of Palo Verde 1-3 by buying out Tucson Gas & Electric when that company decided to withdraw from the project. In any case, even if Units 1 & 2 were somewhat delayed and Unit 3 cancelled, this would decrease SCE's 1983-91 additions to resources by only 197 Mw.

D. Axis - 47 Mw - already operating.

It is currently not connected to SCE's main grid, but is expected to be connected in 1981. Any delay in interconnection would cause a concomitant delay in adding currently isolated demand to SCE's system. Thus, a failure to connect Axis to the system would also lower SCE's need.

E. Reid Gardner 4 - 25 Mw firm - scheduled 1983.

This is a 250 Mw coal plant under construction by Nevada Power Corporation. DWR will receive 90 percent of the energy, but only 25 firm Mw. The 25 Mw are assumed to serve DWR loads in the SCE planning area.

II. Resources Under Contract

A. Oroville exchange with DWR - 336 Mw (net) - to take effect in 1983 - hydro.

This contract will make capacity available to the SCE area from DWR facilities at Oroville, in exchange for energy starting in 1983. Since the Oroville Dam and Hyatt-Thermalito power plants already exist, no obstacle is foreseen.

B. DWR-HWD exchange - 159 Mw - scheduled for 1983 - hydro.

No obstacles foreseen. Composed of numerous small components, some operating already, and others under construction.

III. Resources in Licensing

A. Balsam Meadows hydro - 200 Mw - scheduled for November 1986.

Pending before FERC, as project number 2868.

Preliminary permit application filed September 14, 1978.

B. Pinkney Creek hydro - 120 Mw - scheduled for late 1986.

Possible obstacles unknown. Pending before FERC as project number 2890, filed November 28, 1978, by the Kings River Conservation District. SCE would purchase power from KRCD, avoiding any need to invest its own money in the project.

C. West Side hydro - 200 Mw - scheduled before the summer of 1989.

Possible obstacles unknown. Pending before FERC. SCE would purchase power, avoiding any need to invest its own money.

IV. Additional Resources in SCE's Resource Plan

A. 106 Mw of firm cogeneration - scheduled from 1981-91 at 0-41 Mw per year. Also, 157 Mw of demand reduction due to nonfirm cogeneration shown by SCE beyond that already included in the CEC's demand forecast.

No obstacles foreseen. Minimal level compared to PG&E. Some added in pieces too small to even come under FUA. SCE actually plans on 502 Mw of cogeneration by 1990,¹ but shows only 106 firm by 1991.

B. 170 Mw of brine geothermal - scheduled from 1984-90.

No resource obstacle seen at 170 Mw level. SCE currently has a 10 Mw plant over 40% built, with firm power not

¹ Testimony of Steve Barrett, SCE, in FUC's AMVES CFCM proceeding.

shown in its plans until 1984. It also has a production permit for a 10 Mw geothermal plant at Hobbs to operate in 1982, which is not shown until 1986 in its plans and plans a further 10 Mw plant in 1982. Thus, of the 170 Mw of geothermal resources SCE proposes to have available in 1991, 59 Mw will already be built by 1982.

C. 63 Mw of firm wind capacity - scheduled for 1984-91.

No obstacles foreseen. This estimate appears extremely conservative in terms of lead time since SCE does not show its next wind installation, beyond the machine currently under construction in Banning Pass, until 1986. Given SCE's own conclusion that wind will be cheaper than coal throughout the late 1980's it is reasonable to rely on the full 63 Mw now planned.

V. Additional Resources in SCE's Resource Plan Which Are Relied Upon

A. Cerro Prieto geothermal - 321 Mw - scheduled for 1984-87 for SCE.

A letter of intent has been signed between CFE, SCE, and SDG&E laying out a 3-phase, 660 Mw project. The first 220 Mw phase will provide 150 Mw for SDG&E and 70 Mw for SCE. Later phases will provide for an ultimately even division, with 330 Mw each for SCE and SDG&E. The power is intended to be baseload, but only for 10 years, after which it will revert to CFE as needed. This is similar to the plan for the Harry Allen units.

Delays are quite possible, but the attractive economics make the project likely to proceed. Any delay of 2 years or less actually increases the extent to which the need for AWWES is reduced, by extending the period in the 1990's during which Cerro Prieto power will be available. Delays from 3-4 years would not affect the need for AWWES in the 1980-91 period. Delays of more than 4 years seem unlikely.

B. IPP - 480 Mw - scheduled for 1986-89 for SCE customers Anaheim and Riverside.

No serious obstacles foreseen. EPA permitting almost complete. DOI permits already received. Delay possible to deal with the financial implications of a 2% Utah tax on power production, passed in 1979. Delays up to 2 years would not affect power availability in 1991.

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ABRAHAM BRAITMAN Consulting Engineer

7735 OLD GEORGETOWN ROAD, BETHESDA, MARYLAND 20814 (301) 656-1700

August 18, 1980

District Manager
Cedar City District
Bureau of Land Management
P.O. Box 724
Cedar City, Utah 84720

Re: Allen-Warner Valley Energy System
Draft Environmental Impact Statement

Dear Sir:

My comments on the referenced document are tendered herewith for consideration.

It is necessary that Alternative 5 be upgraded to demonstrate that it can satisfy future electric requirements with the same degree of certainty as Alternatives 1 through 4.

At first blush, Alternative 5 appears to be the most desirable societal approach to meeting future electric needs in the service areas of PG&E, SCE, Nevada Power Company and the City of St. George. Accepting Alternative 5 at face value, it appears that the electric requirements within these service areas can be satisfied for an extended period beginning in 1990 without the need to construct any of the facilities represented by Alternatives 1 through 4. By applying Alternative 5 techniques to other geographic areas, it should be possible to demonstrate that all electric needs in the contiguous United States can be satisfied merely by implementing programs for energy conservation and for the development of nonconventional energy sources.

Alternative 5, however, can not be accepted at face value primarily because it has not assessed the extent to which adequate and reliable electric service would be jeopardized. There is no rigorous analysis showing the sensitivity of projected energy savings to variations in:

- a) economic activity
- b) cost of electricity
- c) cost of oil
- d) cost of alternative energy systems
- e) demographic trends

Moreover, there is no rigorous assessment of the adverse societal impacts from Alternative 5 in the event foreign oil supplies are interrupted for protracted periods or in the event the electric car gains widespread

Dear Mr. Green
I do not want to see southern Utah
used as a sacrifice zone for California I
do not want the Allen-Warner Valley project put in the
area. If it must be, then implement
alternative 5 - The energy conservation and
alternative energy source alternative.
Thank you Eric Rechel

Eric Rechel, Logan, Utah

Response 126-1

Your views are noted and will be considered in the decision making process.

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acceptance because of technological improvements. Also, there is no indication that California or the other relevant political subdivisions have passed laws mandating the energy conservation measures and the development of alternative energy sources relied upon so heavily. In the absence of such compulsory measures, Alternative 5 embodies a much greater risk to adequacy and reliability of electric service at reasonable cost than Alternatives 1 through 4.

It is useful to illustrate the speculative nature of Alternative 5 techniques by considering another facet of our energy dilemma. For example, a case can be made that a voluntary conservation program is a viable alternative to further exploration and drilling for new oil supplies in the United States. Using Alternative 5 as a model, it could be demonstrated that the need to develop new oil supplies in this country could be eliminated if all automobile drivers limited their maximum speed to 40 miles per hour and reduced the total miles driven per year by 30%. The feasibility of such a program would be assured under Alternative 5 criteria because Americans could save billions of dollars each year. In the real world such an alternative would be foolhardy. Despite a variety of voluntary conservation programs since 1974, the consumption of gasoline has been influenced most by price elasticity, a faltering economy and conservation measures required by law (such as the 55 mile per hour speed limit and car fleet performance standards). Even so, there is heated controversy with respect to any attempt to quantify the amount of gasoline conserved by such factors. Also in the real world, mandatory conservation measures have uncertain futures because some have become highly contested political issues.

Finally, if Alternative 5 is not upgraded to demonstrate that it can satisfy future electric requirements with the same degree of certainty as Alternatives 1 through 4, it should be deleted from the Final Environmental Impact Statement.

Sincerely,

Abraham Braitman
Abraham Braitman

Abraham Braitman, Bethesda, Maryland

Response 127-1

Your comments on the cost-benefit analysis of the alternatives are addressed in Response 63-8.

The impact analysis of Alternative 5 is expanded to reflect your comment. See the discussion of Alternative 5 in Chapter 4 of the final EIS. As to legislative measures concerning the implementation of components of Alternative 5, refer to the Existing Legislation and Initiatives Favoring Conservation and the Development of Alternative Energy Sources section of Chapter 3 in the final EIS.

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995 Bloomington Dr. S
Bloomington, Utah 84770
August 26, 1980

District Manager
Cedar City District

BLM

P.O. Box 724

Cedar City, Utah

Re: Addendum to my comments of 8-19-80.

Dear Sir:

I am enclosing a copy of a "news flash" from Chemical Engineering Magazine for 8-25-80 concerning EPA issuance of final rules for Prevention of Significant Deterioration (PSD) which requires stringent PSD review for any stationary plant which has the potential to emit 100 tons per yr. or more of any air pollutant, including those plants to be built near National Parks (Class I). From page 4-10 of the Draft it is most evident that SO₂, Particulates and NO_x will ~~be~~ exceed the 100 tons per yr. in a short time for either the Harry Allen or Warner Valley facilities. This further reinforces my position on my letter of August 19th. Thanks Sincerely, These new PSD rules must be considered for the final EIS.
Laurence T. Eck
LAURENCE T. ECK

Laurence T. Eck, Bloomington, Utah

Response 128-1

Your comment is noted. The recently published final PSD regulations (Federal Register, August 7, 1980) have been considered in the final EIS in the Air Quality sections of Chapter 4.

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STATE OF NEVADA
GOVERNOR'S OFFICE OF PLANNING COORDINATION
CAPITOL COMPLEX
CARSON CITY, NEVADA 89710
(702) 885-4605



August 11, 1980

August 27, 1980

District Manager
Cedar City District Office
Bureau of Land Management
P.O. Box 724
Cedar City, Utah 84720

Re: SAI NV# 80300069 Project: Allen Warner EIS

Dear Sir:

Attached are the comments from the following affected State agencies: Division of State Parks, Colorado River Resources, Division of Environmental Protection, Division of Water Resources and the Department of Wildlife concerning the above referenced project.

Please excuse the delay in submitting the comments, however, there was evidently some confusion in the mailing and receipt of EIS's as some State agencies listed as receiving copies direct did not receive them and others received copies late in July. This is why we prefer that all materials for review and comment be sent directly to the State Clearinghouse for distribution and not sent directly to State agencies.

These comments constitute the State Clearinghouse review of this proposal. Please address comments in the final EIS.

Sincerely,

Mike Nolan

Mike Nolan for
Robert Hill
State Planning Coordinator

RH/MN/sl
Enclosure

Mr. Mike Nolan
State Clearinghouse
Office of the State Planning Coordinator
Capitol Building
Carson City, Nevada 89710

Dear Mike:

The Nevada Department of Wildlife appreciates the opportunity to review and provide comments on "Allen Warner Valley Energy System", SAI #80300069.

There are several areas of concern for fisheries in the subject draft E.I.S. The possible impacts on endemic fish populations of the Virgin River were adequately discussed; including water quality and water quantity. However, very little attention was given to fishes of the Muddy River and possible hazards to the native and game fish species.

The proposed location of the coal slurry pipeline crossing of the Muddy River is not well defined, but it appears to pose no threat to the endangered Moapa dace, since this species is confined to the springs and upper reaches of the system. However, the status of the roundtail chub (*Gila robusta* ssp.) in the Muddy River is not presently known. These species now appear on Nevada's sensitive species list with the Moapa speckled dace, *Rhinichthys oscurus moapa*, of the same river. Although .02 acre feet of spilled slurry may be insignificant in a major river, it is a significant threat to fishes in the Muddy River.

Any change of water quality or reduction of flows in the Virgin River or Muddy River could reduce or destroy native fish populations.

The potential impacts of the transmission line corridors, and the coal slurry pipeline to wildlife species other than those listed as sensitive, or threatened and endangered are not adequately addressed in this draft E.I.S. Major impact analysis for the entire project within Nevada is provided only for the wildlife species listed as of "concern" i.e. threatened and endangered or sensitive, and not other wildlife species. In-depth analysis of the impacts of the transmission lines and the coal slurry pipeline need to be provided for all wildlife species, but especially bighorn sheep.

Mr. Mike Nolan
August 11, 1980
Page -2-

3 [In Chapter 3 reference is made to figures 3-8 and 3-9 and these figures could not be found in the E.I.S. document.

Generally, the document presents an objective evaluation of potential impacts with the exceptions noted above. It does appear, however, that the E.I.S. attempts to address too much material by dealing with the entire system. Impact analysis would be simplified and more precise if separate statements were prepared for each major segment, i.e. transmission line corridors, power plants, coal fields, etc., or if separate statements were prepared for the entire system for each individual state.

Sincerely,

Wf:kc

cc: All Regions
Front Desk
Director's Office

Joseph C. Greenley
Director

State of Nevada, Carson City, Nevada

Response 129-1

The potential for impact to the endemic fish species occurring in the Muddy River was considered in the scoping process. Since the fish species occur above the proposed crossing, no significant impact would occur. Standard Operating Procedures 6 and 7 as listed in Chapter 2 of the final EIS should ensure that no adverse impacts would occur to water quality in the Muddy River.

Response 129-2

No significant impacts to bighorn sheep would be anticipated as a result of the transmission lines or coal slurrylines passing through Nevada. As indicated in the Introduction to Chapter 3, Environmental Elements With Minor Impacts were not found to be of sufficient significance to be analyzed in detail. Thus, the affected environment is described only briefly for these elements.

Response 129-3

As stated in the first reference to these figures in the text, figure 3-8 (Proposed Electrical Transmission Routes and Proposed Coal Slurry Pipeline in California and Nevada) and figure 3-9 (Proposed Electrical Transmission Routes and Proposed Coal Slurry Pipeline in Utah and Arizona) are located at the back of the volume. If your draft does not include these figures, a new book will be mailed to you upon request to the BLM, Cedar City District Office.



**DIVISION
OF
STATE
PARKS**

MEMO

TO Roland Westergard, Bob Hill
FROM John Meder
SUBJECT DRAFT EIS FOR ALLEN-WARNER VALLEY ENERGY SYSTEM

801.6b (10)

DATE August 21, 1980

The Division of State Parks has reviewed the description of the proposed project, proposed alternatives and our previous (11/12/75 and 1/29/80) comments. The following are our comments on the presented alternatives, the mitigating measures and some issues we feel should be analyzed in the final EIS, as they relate to the Nevada State Park system, outdoor recreation and open space-conservation planning.

1. Alternatives

Of the six alternatives presented our first and second preference would be #5 Conservation of Energy and Alternative Forms Electric Power Generation and #6 No Action, in that order. Since it is not very likely that Nevada Power Company will give much credence to these two alternatives, following are comments on the remaining proposed "reasonable alternatives".

As presented in the document we find no real alternatives presented. Three of the four propose the Allen powerplant of 2,000-MW in Dry Lake Valley, the fourth (#4) proposes the Allen powerplant of 1,600-MW in Dry Lake Valley. There is no difference in the power transmission systems which will have some of the most significant impacts on recreation and natural areas. Two of the alternatives show a damming of the Virgin River and diversion of over 40% of the water flow, for no power generation purposes.

2. Air Quality

4 [The most significant impact of the Valley of Fire State Park will be an increase in air pollution. Pollution from the existing units of the Reid Gardner powerplant has become noticeable within the park. The increases from the expansion of Reid Gardner (approved to expand to 580 MW) and the pollution emitted by the Harry Allen plant should be analyzed together. Since conclusions regarding the extent and duration of air quality impacts from the cumulative combination of the two powerplants have not been made, we cannot comment further on them. The comment period for the draft EIS should remain open until air quality analysis are complete.

5 [The public should also be allowed to comment on the detailed studies of air pollutants if Wyoming coal is used in a 1,000 MW or 2,000 MW Harry Allen powerplant. If the emissions from the 1,000 MW would violate Class II standards, then certainly a 2,000 MW would.

Response 129-4

Possible cumulative impacts must be considered before issuance by EPA of a PSD permit for the Harry Allen powerplant. Because air quality studies for the Harry Allen powerplant are incomplete, they are not available in the final EIS. More information may be available from EPA Region IX during the comment period on the final EIS.

Response 129-5

As discussed in the Air Quality sections of Chapter 4 in the final EIS, a 1,000-MW Harry Allen powerplant could violate Class II standards if Wyoming coal would be used as would a 2,000-MW powerplant.

Also the comment period should remain open to allow inclusion of the National Park Service EPA analysis of Class I air quality impacts.

Air pollution should also be analyzed on the proposed State Parks in close proximity to the proposed powerplant. The state has identified 14 potential sites in Clark County; it is presumed that in the future some of these will become part of the State Park system. These are all resource based parks and therefore subject to natural resource impacts. The closest site to the proposed Harry Allen powerplant is Arrow Canyon. It stands out as a most significant and unique area in southern Nevada with a very high State Park potential. It has outstanding resources of archeologic, geologic, scenic, paleontologic, and wilderness.

Another that is in close proximity to the proposed powerplant is Buffington Pockets. It too should receive detailed impact analysis.

3. Power Transmission System

There will be significant increases in impacts of the Allen-Warner transmission system, is added to the IPP transmission system which is added to the existing (Hoover Dam, others) transmission system; all within the same corridor. There is also the potential of additional lines from Reid Gardner within this corridor. We have lost count, but this adds up to about 6-10 500 kv parallel lines. These impacts will be most significant where these corridors are all crowded, such as at Rainbow Gardens, Eldorado Valley and McCullough Pass. We don't feel it was covered adequately.

The power transmission system will directly impact the following Natural Heritage sites:

- a. Rainbow Gardens and Gypsum Cave were recently recommended by the Great Basin review panel for nomination for national registration. This area will be bisected by up to five parallel 500 kv lines. Rainbow Gardens is nationally significant because of its stratigraphic layering that is now vertical rather than horizontal. The colorful layering represents from precambrian to mesozoic periods (a broader range than in the Grand Canyon). This area is also an excellent interpretive example of faulting. Gypsum Cave is one of the largest known caves in gypsum, it is also a Registered National Historic Landmark.
- b. The McCullough Mountains were also nominated by the Great Basin Board for National Natural Register Landmark status. One existing 500 kv line goes through McCullough Pass but with the IPP and Allen-Warner projects, up to six parallel 500 kv lines could go through this area.

Response 129-6

These areas are presently designated as PSD Class II areas. As stated in the Air Quality sections in Chapter 4 of the final EIS, Class II incremental limitations and NAAQS must be complied with before a PSD permit is issued by EPA.

Response 129-7

The impacts of transmission lines crowding in the areas mentioned in the comment are further discussed in the final EIS. The final routing of the transmission lines, should rights-of-way for their construction be granted, would be carried out by the authorized officer (BLM) in cooperation with local and State government agencies and the Las Vegas Wash Development Committee (see Standard Operating Procedures, Appendix 6). The concerns in this comment relating to Rainbow Gardens and McCullough Mountains are addressed in the responses immediately following. For a discussion concerning a master plan for designated transmission corridors in the southern Nevada area, refer to Response 52-5.

Response 129-8

It is felt that adequate analysis and mitigation of possible impacts are discussed in the Electrical Transmission System sections under Alternatives 1 through 5 and the Standard Operating Procedures sections on Cultural Resources, A6-6, Land Use, A6-7; and Recreation and Aesthetics, A6-10 in the final EIS. No significant impacts should occur to the Gypsum Cave since all of the cultural resources are below ground level. The commentor is also referred to the report titled, "Prehistoric and Historic Research along the Navajo-McCullough Transmission Line Right-of-way" prepared for Los Angeles Water and Power Company in Clark and Lincoln Counties, Nevada by Dr. Richard Brooks, Nevada Archaeological Survey; April, 1973.

Response 129-9

Refer to Response 129-8.



10 c. Les Vegas Marsh (Wash) will also be crossed by up to 500 kv lines. It is a very valuable wildlife habitat, special ecosystem and recreational area. It is probably the most productive area, biologically, in Nevada, with 267 species of birds and other wildlife. Federal funds are currently being requested by the County to purchase private inholdings, to officially make this area into a regional Wetlands Park.

11 d. The Paiute Valley Natural Area is the best example of Joshua trees in Nevada. This area is being considered for an alternate route for power transmission.

The transmission system would pass through or adversely impact the following major recreation attractions:

Lake Mead National Recreation Area
Virgin River Recreation Lands
Spring Mountain
Frenchman Mountains
Muddy Mountains
Rainbow Gardens
Jean OHV Area
Las Vegas Wash
McCullough Mountains
Las Vegas Dunes Recreation Lands

In addition, we have inventoried numerous minor recreation areas such as picnic sites, camping areas, creeks, fishing, hunting, sightseeing, off-highway vehicle use, rock collecting, etc., that the power lines would impact.

13 The transmission system analysis should also evaluate impacts on wilderness study areas, roadless areas, deer habitat, bighorn sheep habitat, sage grouse habitat, Desert Tortoise (designated as rare in Nevada and under Federal Status Review) habitat, Gila Monster (unique and uncommon designation) habitat, and raptor and other bird concentrations.

The grouping of large power lines will cause a reduction in the quality of recreational experience for all recreationist in the area. The impacts of the transmission system need to be adequately analyzed, not referenced away to the IIP study (page 1-8).

4. Soil, Erosion Impacts

14 The disturbed soil and vegetation areas are projected to take 10-20 years in cold desert areas and 30 years in the hot desert areas to stabilize and revegetate. The projected life of the powerplant would not be much more than that. The EIS should also evaluate the impacts of, and ways to revegetate. It has been the experience of the Division of State Lands that in areas of less than 12 inches of rain per year it is necessary to irrigate for extended periods for revegetation to be successful.

Response 129-10
Refer to Response 108-1.

Response 129-11
The Paiute Natural Area was a proposed land designation in an early 1970s Management Framework Plan. That MFP has not been implemented in light of new duties generated by the BLM Recreation Inventory Survey, the Wilderness Review program, and a Heritage Conservation and Recreation Service determination that few, if any natural qualities remain. The decision is not likely to be implemented.

Response 129-12
See Response to comment 129-8.

Response 129-13
No proposed wilderness or roadless areas will be impacted by the AWV energy system in Nevada. No significant impacts to deer, bighorn sheep, desert tortoise, gila monster, or raptor habitat will occur in Nevada. No known sage grouse habitat exists in the portions of southern Nevada crossed by the project components. According to standard operating procedures (Appendix 6), intensive on-ground surveys would be completed on affected lands before construction could begin. The IPP study is considered adequate in analyzing the recreational experience impacts from powerlines.

Response 129-14
Mitigating Measures and Standard Operating Procedures (Appendix 6) are designed to regulate construction and reclamation activities so as to minimize soil erosion, stream sedimentation, etc. These can only be presented in a general sense because on-ground supervision would be maintained by the authorized officer (land manager, etc.).

5. Endangered Species

- 15 [The comment period should be expanded to allow public review of USFWS biological opinion regarding the officially listed endangered woodrat. Also the public should be allowed to review and comment upon the biological assessments on the two candidate endangered species, the Virgin River roundtail chub and the desert tortoise. The public should also be allowed to review and comment on the BLM biological assessment of the two officially endangered plant species.

6. Energy Conservation

- 16 [The proposed development (page 5-8) would generate capacity equal to 25 million barrels of oil per year; yet alternative 5 would (page 5-15) result in a reduction equivalent to 43.5 million barrels of oil per year. The application of alternative 5 would represent energy savings and displacement of approximately 4,349 MW in 1991. This will also lower overall energy cost to consumers.

7. Bryce Canyon National Park

- 17 [The public should be allowed to review and comment on the visitor perception study and analysis of blasting effects on Bryce Canyon National Park (page 5-17). Public comment period should remain open until this study is completed and dispersed. Similarly the reports of mining on wells and springs in Dixie National Park should be reviewed by the public.

8. Fuel Delivery System

- 18 [It seems to us that the most efficient system for fuel delivery would be one that combined the Reid Gardner and Harry Allen coal loads. Whether this is by train, slurry line or other means should be analyzed.

- 19 [The trucking of coal (page 2-31) to the Warner powerplant would involve six (6) trucks per hour, 24 hours per day (25 ton truckloads) or 19 trucks per hour for eight hour workday. The impacts on the communities, the fuel efficiency of this proposal as well as air pollution, etc., should all be included in the draft EIS.

9. Recreation and Aesthetic Impacts

- 20 [The visual resource is considered the most important aspect of recreation in the affected environment. The geology, landscape and scenery together with the current exceptional air quality and visibility offer a variety of recreational activities such as sightseeing, wilderness types, dispersed recreation types, photography, nature study, etc.

Response 129-15

An extension of the comment period was not possible due to time limitations required in the decision making process.

The biological opinion of the USFWS (Appendix 15 of the draft EIS) is replaced in the final EIS with the most recent USFWS biological opinion.

The desert tortoise became officially listed as threatened, with 35 square miles being designated as critical habitat, on September 19, 1980 (Federal Register, Volume 45, Number 163, August 20, 1980). A public hearing was held in St. George, Utah on March 25, 1980 with public comments on this proposal being accepted until April 9, 1980. Biological assessments prepared by BLM for both plant and animal species have been available for public review at the BLM District Office, Cedar City, Utah.

Response 129-16

Should Alternative 5 be fully implemented, the total amount of energy displaced through conservation and solar technologies, complied with that generated by alternative energy sources, would equal the equivalent oil capacity represented in the discussion of Alternative 5 in Chapter 4 of the final EIS.

Response 129-17

The visitor perception study and the blasting study were not conducted by BLM. Therefore, BLM has no control over the distribution and public comment period concerning these documents. A summary of the blasting study is included in the final EIS in the Recreation and Aesthetics sections in Chapter 4. The visitor perception study was scheduled for release on September 29, 1980 and a summary of its findings are included in this EIS.

Response 129-18

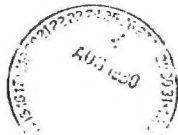
Coal utilized by the Reid Gardner plant is transported by rail from central Utah. Under Alternatives 3 and 4, coal would be railed from central Utah or southwestern Wyoming to the Harry Allen plant and could conceivably utilize the same unit trains as the Reid Gardner plant. Rail transportation is discussed under Alternatives 3 and 4 in Chapter 2 and analyzed in Chapter 4 of the final EIS.

Response 129-19

Approximately 6.5 trucks per hour would leave the Alton coal lease area to transport coal to the Warner Valley plant. The impacts to communities affected by the transportation of coal by truck are discussed in the Impacts to Kane County and Its Communities and the Impacts to Washington County and Its Communities sections under Alternative 3 of Chapter 4 in the final EIS.

Response 129-20

Visual resources are an important aspect for the total enjoyment of recreational activities and played an important role in the analysis of recreation in this document. Refer to Response 37-2 for more information on this topic.



Draft EIS for Allen-Warner Valley Energy System
Page 5

21 [The four powerplant alternatives (1-4) all call for (page 3-59) an increase in recreation visitation and a decrease in overall visual resources quality. We do not feel that an increase in the numbers of visits with a decrease in the quality of each of those visits is a worthwhile tradeoff.

10. Growth Inducement

22 [The increased energy capacity provided by the enlarged Reid Gardner powerplant; the decreasing per capita consumption rates (page 3-34); NPC's modest energy conservation program (page 3-39); the IPP project; the "White Pine" facility (page 4-150), and the "California Coal Project" (page 4-150); should be analyzed against other natural resources within the NPC service area, to provide for urban development, i.e., water, air quality, etc.

23 [In summary, we believe the comment period should remain open until all studies mentioned in the current draft Allen-Warner Valley Energy System Environmental Impact Statement are available to the public. There should be comments on the draft and an analysis made on their effect on the current draft EIS and changes that are needed in the draft EIS to accommodate the new findings. We also believe that additional investigation needs to be made in areas generated in this letter. It appears that the immediate impacts of the powerplants have been considered, however, many of the secondary impacts have not been analyzed.

24 [11. Who is Harry Allen?

Does he know all of these bad things are being done in his name?

JM:ew

Response 129-21

Table 2-19 in the final EIS is revised to reflect the analysis in Chapter 4.

Response 129-22

The impacts to affected communities concerning socioeconomics (services, infrastructure, etc.) are discussed in the Socioeconomics sections of Chapter 4 in the final EIS. Although interrelated projects are considered, the EIS does not take a position of attempting to analyze all potential future projects. As those projects are brought to the EIS stage, analysis would be made of impacts in relation to existing projects.

Response 129-23

Refer to Responses 6-4, 22-1, 22-2, 52-1, and 111-8 for a discussion on these concerns.

Response 129-24

Harry Allen was formerly a president of Nevada Power Company.

pp. S-4 and S-5

25 [An apparent discrepancy on these pages exists in regard to whether a portion of the Class II increment occurs or whether the increment is exceeded. The EIS states there are "... conflicting study results that must first be resolved." Table 4-3 on page 4-11 indeed shows a conflict in modeling results of the SO₂ 24-hour concentration. This definitely is a major point to be clarified prior to any finalizing of the EIS.

p. 2-58 Table 2-20

26 [The Air Quality category states that the Valley of Fire State Park is a Class I area. This is not true.

p. 3-4

Hydrographic Area 218 - California Wash where the existing Nevada Power Company's Reid Gardner station is located, in some areas may be close to the 24-hour SO₂ ambient air quality standard of 365 micrograms per cubic meter. This was found by modeling conducted for Reid Gardner Unit No. 4.

27 [Hydrographic Area 212 - Las Vegas Valley has been designated as a nonattainment area for ozone, carbon monoxide and particulate matter. Page 4-12 notes that "(S)tudies... indicate that ... Harry Allen... would not cause violations of the O₃ standard." This may be true, but in some situations as it is mentioned that O₃ levels can increase downwind. The increase in NO_x emissions by 170 tons per day may also have some effect to ozone formation at some distance from the plant.

These are two areas that must be investigated as to whether Harry Allen will have any effect on the ambient air quality standards in areas removed from the plant site.

pp. 3-7 and 4-7, Tables 3-1 and 4-1, respectively.

28 [The New Source Performance Standards for Electric Utility Steam Generating Units Constructed after September 18, 1978, gives an option on the SO₂ standard depending on the emission rate. The standard, as paraphrased from the regulations is: No owner shall cause to be discharged into the atmosphere any gases which contain SO₂ in excess of 1.2 lb/million BTU heat input with 90% reduction of the combustion concentration or 70% reduction of the combustion concentration when emissions are less than 0.60 lb/million BTU. This addition should be made to those tables since it is an important item.

- 29 p. 4-12
Lead is a trace element that has been established as a criteria pollutant. As a result, this pollutant must be addressed in any modeling for determination of impact from the plant.
- 30 p. 4-13
Secondary pollutant formation may have an impact on the visibility in Las Vegas Valley. This item should be addressed.
- 31 p. 4-23
Proposed Rulemaking for Visibility Protection for Federal Class I Areas was published on May 22, 1980. It is possible that this project will be subject to these regulations. Realizing that it could take a great deal of time to finalize these regulations, something should be mentioned in the final EIS in regard to this matter.
- 32 p. A4-2
Other pollutants besides SO_2 , particulate matter and NO_x may be required to be monitored. These will be determined during the review of the application for a registration certificate with the State and the PSD application by EPA Region IX. (This deals only with the Harry Allen plant.)

HHR:mlw

Response 129-25

Table 4-4 of the final EIS presents results derived from separate studies with different assumption and analysis techniques used. There have been no additional studies available before the printing of the final EIS. However, it must be shown to EPA that no SO_2 increments would be exceeded before EPA could issue a permit.

Response 129-26

To reflect your comment, the table is amended in the final EIS and no longer implies that the Valley of Fire is a Class I area.

Response 129-27

Your Hydrographic Area 218 comment is addressed in Response 87-2 and the Hydrographic Area 212 comment is addressed in Response 5-1.

Response 129-28

Tables 3-1 and 4-1 are revised in the final EIS to reflect your comment.

Response 129-29

Modeled concentrations for lead are given in tables 3 and 4 of Appendix 13 in the final EIS. The concentrations are well within the NAAQS for lead.

Response 129-30

Your comment is addressed in Response 5-1. Also, additional discussion concerning this problem is added to the Air Quality sections in Chapter 4 of the final EIS.

Response 129-31

As stated in the Visibility section of Air Quality, Alternative 1, in Chapter 4 of the final EIS, NPS would have the responsibility to determine whether visibility values in the national parks would be adversely affected. The proposed rules are expected to be finalized by mid-November 1980. NPS is using the proposed rules as a guide in their analysis.

Response 129-32

According to revised PSD regulations promulgated by EPA (45 FR 52676), carbon monoxide, lead, beryllium, mercury, fluorides, and total reduced sulfur would also have to be monitored unless the applicant would show that maximum ground level concentrations would be below levels specified on page 52739 of the Federal Register, August 7, 1980. The applicant would also have to submit a satisfactory monitoring plan to the State air quality control agency before permission to construct could be granted by the State.

Clearinghouse Comments

80300969 Allen Warner Valley Energy System

Water: Wendell McCurry:

- 33 [Appendix 4: Compliance with the procedures listed under Water Resources and permits for all treatment and disposal of wastewater will be required.
- 34 [Appendix 5: Page A5-4, add to activity/action for State of Nevada "Issue pollution discharge permits."
- 35 [Compliance with the Standard Operating Procedures listed in Appendix 6 is required.

WMC:kh

Solid Waste

Verne Rosse: No comment.

Response 129-33

Applicants will comply with the Standard Operating Procedures as listed in Appendix 6.

Response 129-34

Appendix 5 is changed in the final EIS to reflect your concern.

Response 129-35

The Introduction of Appendix 5 and the Assumptions and Analyses Guidelines section in Chapter 4 of the final EIS has been revised to reflect this comment.

ROLAND D. WESTERGARD
Director

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF WATER RESOURCES

WILLIAM J. NEWMAN
State Engineer

Capital City
201 South Fall Street, Carson City, Nevada 89710

August 26, 1980

Address All Communications to
the State Engineer, Division
of Water Resources
Telephone (702) 885-4143

In reply refer to
No.

MEMORANDUM

To: Roland D. Westergard, Director

From: William J. Newman, State Engineer - WJN

Subject: Allen-Warner Valley Energy System EIS

The above referenced Environmental Impact Statement has been briefly reviewed and this office has no objection to the proposal to locate the Allen Plant in Dry Lake Valley.

Secondary Permits 21614-S-1 and 21728-S-2 have been issued to the Nevada Power Company for industrial cooling.

Permit 21614-S-1 was issued on June 23, 1975 for 44.56 c.f.s., but not to exceed 32,260 acre-feet annually of effluent as described in the purchase agreement dated June 21, 1974 between the City of Las Vegas, Clark County Sanitation District No. 1, County of Clark and Nevada Power Company.

Permit 21728-S-2 was issued on June 23, 1975 for 29.706 c.f.s., but not to exceed 11,504.39 acre-feet annually of effluent as described in the purchase agreement dated June 21, 1974 between the City of Las Vegas, Clark County Sanitation District No. 1, County of Clark and Nevada Power Company.

Proof of Beneficial Use under both above described secondary permits is due on June 23, 1984. The place of use under both of the described secondary applications is within Section 8, T.16S., R.63E., the place of use, as described in the Environmental Impact Statement, is within the vicinity of the intersection of T.17S-16S., and R.63E.-64E.

It probably won't be necessary to make an application to change the place of use under each of the existing permits as this can be done by issuing corrected permits.

WJN/bc





DUANE R. SUDWEEKS
ADMINISTRATOR

STATE OF NEVADA
DIVISION OF COLORADO RIVER RESOURCES

ADDRESS: P.O. BOX 13740
LAS VEGAS, NEVADA 89119

TELEPHONE (702) 733-7755

August 5, 1980

OFFICE ADDRESS
4220 MARYLAND PARKWAY
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LAS VEGAS, NEVADA 89109

7-4
UNION PACIFIC RAILROAD COMPANY

LAW DEPARTMENT



STEVEN A. GOODSELL
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NORMAN W. KETTNER
Asst. General Solicitor
J. CLARE WILLIAMS
General Attorney
DENNIS V. HASLAM
Asst. General Attorney
DENNIS C. FARLEY
Attorney

August 27, 1980

408 WEST FIRST SOUTH
P.O. BOX 2459
SALT LAKE CITY, UTAH 84110
(801) 363-1414

MEMORANDUM

To: Robert Hill, State Planning Coordinator
From: Administrator, Division of Colorado River Resources
Subject: Allen-Warner Valley Energy System--SAI NV #80300069

The Division of Colorado River Resources (DCRR) is directly involved with procurement and marketing of electrical energy and capacity within certain areas of Nevada, we, therefore, understand the necessity of developing new resources to accommodate predicted increases in loads. The Allen-Warner Valley Energy System will provide the necessary energy to meet anticipated load growth in the Southern Nevada area.

Initially 8% of the energy from the Allen Station will be used in Southern Nevada. However, the recapture provisions associated with the Allen Station will provide additional resources for the Southern Nevada area beginning in the year 1999. The economic impact upon Southern Nevada energy users will be very favorable inasmuch as the cost of the resources on recapture, beginning in 1999, will be based on the cost of generation placed in service with dollars spent in the 1980's.

The essential benefits derived from this project far outweigh any of the minor negative impacts addressed in the Draft Environmental Impact Statement. Therefore, DCRR wishes to go on record as supporting the Allen-Warner Valley Energy System as outlined in Alternative #1, Department of the Interior Draft Environmental Impact Statement on the Allen-Warner Valley Energy System prepared by Bureau of Land Management and date stamped June 20, 1980.

Duane R. Sudweeks
Duane R. Sudweeks

cc: Noel A. Clark, Director, State Department of Energy



District Manager
Bureau of Land Management
Cedar City District Office
1579 North Main
Cedar City, Utah 84720

Re: Allen-Warner Valley Energy
Systems DEIS

Gentlemen:

Pursuant to your request for comments on the Draft EIS for the above proposed project, and in accordance with my telephone conversation with Mr. Dave Everett last week, Union Pacific Railroad hereby submits the following comments and suggestions for your review and consideration with respect to your preparation of the final EIS presently scheduled for publication on or about November 17, 1980:

1. Rail transportation - Use existing lines. Union Pacific would like to reaffirm its capability of handling without difficulty the coal movements required under alternatives 3 and 4, which would involve transportation over existing rail lines from coal sources in central Utah and southern Wyoming. In this regard, we suggest that central Utah and southern Wyoming coal should be favored over Alton coal for use at the Harry Allen plant because of its superior BTU rating and cleaner burning characteristics.

2. Rail transportation - New line construction. We suggest that until a final decision is made on the proposed Southern Utah Coal Transportation System, construction of a slurry pipeline from Alton to Warner Valley and on to Harry Allen would seem to be premature. Should the southern Utah rail system be implemented, a rail line to Warner Valley and/or Harry Allen would possibly be more efficient. In this respect,

District Manager
Bureau of Land Management
August 27, 1980
Page 2

we suggest that the BLM consider yet another alternative in addition to those already proposed in the DEIS: the construction of a new rail line to service southern Utah coal fields, including both Alton (insofar as Alton coal may be judged suitable for mining) and Kaiparowits, for delivery to the Harry Allen plant.

In our opinion, such an alternative would both minimize disruption to precious water supplies and more evenly distribute socioeconomic impacts resulting from energy development in the affected states. We further believe that the economic viability of such construction should be examined in terms of region wide development involving several mines and multiple markets rather than looking at the Allen-Warner Valley Energy System in isolation.

We would point out that the BLM's recently released special study of coal development and transportation in southern Utah could form the basis for consideration of such an alternative, and we suggest that this study should be incorporated by reference into the EIS as finally published. Of course, Union Pacific stands ready to offer assistance in the development of more specific information which might be needed to evaluate this new alternative.

3. Energy conservation - Alternative Energy Sources.
We emphasize that a primary consideration should be the potential for displacement of approximately 20 million barrels of oil as a result of the proposed energy system, and we are supportive of efforts aimed at eliminating energy waste and increasing the use of alternative energy sources. In this respect, we believe that construction of the Warner Valley plant and slurry line could be an unwarranted intrusion into the southern Utah environment since it has not been shown that other energy sources, such as layoff power from the 3,000 MW IPP facility near Lynndyl, Utah, cannot meet the energy needs of the St. George area. We would also like to emphasize, however, that caution should be used to avoid making overly optimistic estimates with respect to the potential for conservation and use of other energy sources to substantially reduce the need for additional electrical generating capacity within the time frame being considered.

4. Coal slurry pipelines. We also express our concern over the pumping and transportation of water supplies from

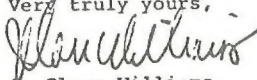
District Manager
Bureau of Land Management
August 27, 1980
Page 3

southern Utah, because of the potential adverse effect such pumping and transportation may have on the area's agricultural productivity and industrial opportunity.

In sum, we believe that alternatives 3 and 4 appear to be the most feasible, since they would result in the minimal amount of environmental impact possible, while at the same time allowing for construction of at least the Harry Allen plant.

We appreciate the opportunity to provide you with these comments. Please advise if you desire more information from us or if we can be of assistance in some other way.

Very truly yours,


J. Clare Williams

JCW/jn
cc: Mrs. Valerie W. Scott

Union Pacific Railroad, Salt Lake City, Utah

Response 130-1

Your reaffirmation is noted and will be considered in the final decision making process.

Response 130-2

Refer to Response 12-5 for a discussion of this topic.



131

National Wildlife Federation

NATURAL RESOURCE CLINIC
FLEMING LAW BUILDING
BOULDER, COLORADO 80300
303/442-6882

August 26, 1980

Mr. David Everett
Cedar City District
Bureau of Land Management
P.O. Box 724
Cedar City, UT 84720

Dear Mr. Everett:

The National Wildlife Federation, with over 4.5 million members and supporters, is America's largest private conservation organization. We are pleased to comment as follows on the Draft Environmental Impact Statement on the Allen-Warner Valley Energy System.

NWF is seriously concerned about the insults the proposed Allen-Warner Valley Energy System will have on the environment and wildlife. Since up to 28,500 acres of public land are involved in this coal-fired steam electric generating system there is concern in the following areas:

1. The need for power. There is some question as to whether the Allen-Warner Energy System is actually needed to meet future power demands. Alternative 5 which involves energy conservation and the development of alternative energy sources must be given more consideration before alternatives 1 through 4 can be considered reasonable.

2. Coal unsuitability. Mining in the Alton coal fields would have the following adverse effects on the environment: strip mined lands might well not be reclaimable; accelerated erosion would cause increased sedimentation in surface streams; shallow groundwater resources would be seriously degraded; springs and wells in the area would be adversely impacted; blasting could destroy the delicate erosion features of the Bryce Canyon National Park; coal mining activities would cause visual intrusion and generate fugitive dust; and pollutants would impair air quality and visibility of the Bryce Canyon National Park and the surrounding areas.

3. Compliance with air quality regulations. There is serious concern whether the project would have an adverse impact on the air quality related values of Class I areas such as Bryce Canyon and Zion National Parks.

National Wildlife Federation, Boulder, Colorado

Your concerns on the AWV Energy System are noted. However, new information included in the final EIS differs from the draft EIS and your letter on the following points:

Response 131-1

The Purpose and Need of Proposed Project section in Chapter 1 of the final EIS is revised to reflect the most recent information concerning the need for power.

Response 131-2

The OSM draft Southern Utah Petition Evaluation Document (USDI, 1980) addresses a petition (EDF et al., 1979) alleging the impacts (as discussed in your letter) that would occur with the mining of the Alton coal lease area. The information presented in the OSM document is summarized in Chapter 4 of the final EIS.

Response 131-3

Results of modeling studies do indicate that adverse visibility impacts would occur at Bryce Canyon National Park as a result of the Alton mine. Furthermore, it appears there may be visual degradation at several viewpoints in Zion National Park. As a result, NPS has recommended to EPA Region VIII that the PSD permit for the proposed Warner Valley powerplant be denied. EPA has proposed to deny the PSD permit for the Warner Valley powerplant (Public Notice, Washington County News, October 2, 1980), and will take final action by November 2, 1980.

August 26, 1980

4. Threatened and endangered species. The following vegetation and wildlife species designated as officially listed as endangered or designated as candidates for threatened status are found or may be found in the project area: (1) the silver cholla, (2) desert cymopterus, (3) Mojave tarweed, (4) *Opuntia basilaris* var., (5) Death Valley joint fir, (6) Mojave dalea, (7) alkali mariposa lily, (8) *Mentzelia leucophylla*, (9) rusby desert mallow, (10) marriam bear poppy, (11) parish alkali grass, (12) *Linanthus arenicola*, (13) Stephen's penstemon, (14) *Agave utahensis* var. *eborispina*, (15) pygmy agave, (16) brickellia-like goldenweed, (17) pinon forget-me-not, (18) *Corphantha rosea*, (19) *Abronia orbiculata*, (20) ripley gilia, (21) least cymopterus, (22) religious fleabane, (23) last chance townsendia, (24) Bryce bladderpod, (25) sumpo milkvetch, (26) escarpment milkvetch, (27) Aven Nelson scorpionweed, (28) virgin scorpion plant, (29) Nevada willowherb, (30) dwarf bearclaw poppy, (31) woundfin minnow, (32) roundtail chub, (33) desert tortoise. Clearly, protection of these species--best accomplished through the conservation alternative--must be a major priority.

5. The construction of the proposed Hurricane diversion dam will destroy National Register property. Again, the conservation alternative appears superior.

6. Wilderness Study Areas. The proposed transmission line routes of the Western Transmission System would cross wilderness study areas in California. The conservation alternative would avoid this impact.

7. Floodplain restrictions. Portions of the proposed Harry-Allen Power Plant site would be located within the 50-year floodplain playa in Dry Lake, Nevada. Potential flood hazards to the plant from a 100-year flood have not been determined in accordance with E.O. 11988.

The following is a summary of major impacts affecting air quality under alternative 1.

1. Initial studies show that emissions of SO₂ from the Harry-Allen and Warner Valley Power plants may cause violations of the PSD Class II SO₂ increments. The PSD Class I increment at the Zion National Park may be exceeded by the Warner Valley Power Plant, and Class I SO₂ increments in the Valley of Fire State Park potential Class I area would be exceeded by the Harry-Allen Power Plant.

2. Class II air quality increments will be exceeded at the Harry-Allen Power Plant site.

3. The surface mining of coal from the Alton coal fields could potentially have an impact on air quality and create visual intrusion which would impair Park values.

Response 131-4

Biological assessments and consultations with the USFWS were initiated in the early stages of the EIS process. In most instances mitigation was possible to eliminate impacts to endangered plants and animals. Impacts to endangered species which could not be mitigated are shown in the final EIS. The impacts to these species will be considered in the decision making process.

Response 131-5

The proposed Interstate 15 transmission corridor would not cross any Wilderness Study Areas in California. The other Western Transmission System alternatives would cross Wilderness Study Areas as indicated in figure 3-8 and the Wilderness sections in Chapters 3 and 4 of the final EIS.

August 26, 1980

4. The coal fired power plants would release large quantities of carbon dioxide into the atmosphere which could contribute to raising the average temperature of the earth's surface from the resulting greenhouse effect caused by the higher atmospheric CO₂ levels. See Kellogg, *Influences of Mankind on Climate*, Ann. Rev. Earth Planet. Sci. 1979, 7:63-92. There is also concern regarding acid precipitation which also results from large releases of CO₂ sulfur, and nitrous oxides.

5. The proposed Harry-Allen and Warner Valley Power Plants would emit a variety of trace elements in to the atmosphere during the plant operation. The U.S. Fish & Wildlife Service biological opinion in 1978 specifies a concern about possible toxic build-up in the environment near the proposed sites. The results concern the amount of radioactive nuclides which would be emitted from the smokestacks.

6. Visibility impacts from the power plants would be caused by fly ash and secondary pollutants. These impacts would reduce the visual range. Further, the plant itself would also have an impact on the visual environment.

7. Cumulative impacts. Emission from the operation of the Harry-Allen Power Plant could combine with emissions from the Reid Gardner Power Plant located in Moapa, Nevada, to cause increased ambient pollutant concentrations.

Water Resources

The following major water resource impacts could result from adopting alternative 1.

1. The mining activity in the Alton coal fields could contaminate groundwater.

2. In the Alton area as many as 22 springs in the present location and condition could be altered by the surface mining.

3. In the Alton area, erosion and sediment yield to streams would be accelerated by surface mining. The sediment load passing from the mine areas could create maintenance problems of sedimentation at downstream irrigation diversions and canals. Erosion would be increased on 10,154 acres.

4. Groundwater pumping for coal slurry could adversely affect well and spring yields in the adjacent areas since the plan is to obtain water from 13 deep wells in the Navaho Sandstone formation. There is concern whether pumping would affect existing or pending water rights. No tests have been conducted to determine the extent of water table drawdown.

Response 131-6

Radioactive emissions would be very small, and would need no monitoring.

Response 131-7

The concerns expressed in this comment are addressed in Response 87-2.

Response 131-8

The final EIS is revised to include the most recent information concerning the impacts of the proposed Alton coal mine, including ground water pumping. See the Mining in the Alton Coal Lease Area and Ground Water Pumping for Coal Slurry sections under Alternative 1 of Chapter 4.

August 26, 1980

5. Reservoir safety--failure of the proposed Warner Valley dam would result in a floodwave at least as damaging as a standard project flood.

6. Streamflow and water quality would be reduced in the Virgin River system.

7. Construction of the Harry-Allen Power Plant and a reduction of 1,850 acres of playa occupied by the power plant would raise potential flood levels.

Cultural Resources

A large number of cultural resources would be affected. About 329 known archaeological sites and 3 historical trails would be adversely impacted. The Dominguez-Escalante and Honeymoon trails would be impacted by the construction and operation of the power plant. There would be an adverse impact to the ecological importance of Spirit Mountain with a placement of a microwave communication stations. The Hurricane Canal diversion which is listed on the National Register would be destroyed by the proposed project.

Recreation-Aesthetic Values

The following major recreation and aesthetic values would be expected under alternative 1.

1. Mining activities in the Alton area would generate dust, noise and air pollutants which would reduce air quality and visibility.

2. There would be an adverse impact on the scenic character of the St. George Basin, Zion National Park, and Dry Lake, Nevada where visibility will be reduced by concentrations of stack emission from the power plants.

3. Part of the visual resource as viewed from the Bryce Canyon National Park will be degraded by the stripmine activities at the Alton coal fields.

4. Blasts associated with mining activities in the Alton coal fields area could alter or destroy the delicate erosional features in the Bryce Canyon National Park.

5. Visual resources will be degraded throughout the effected environment with the actual presence of power plant and transmission lines.

6. The construction of electrical transmission systems will permit increased access to previously inaccessible areas, thereby causing destruction of vegetation, disturbance of wildlife habitat, and littering.

Response 131-9

About 348 archaeological sites would be adversely affected with the implementation of Alternative 1. Refer to the Cultural Resources sections in Chapter 4 of the final EIS for a discussion of impacts to cultural resources.

Response 131-10

Studies reported in the OSM draft Southern Utah Petition Evaluation Document (USDI, 1980) have indicated that blasting have would no effect on delicate erosional features of Bryce Canyon National Park.

August 26, 1980

7. The construction of the coal slurry pipelines will permit increased access to previously inaccessible areas causing destruction of vegetation, disturbance of wildlife habitat, and littering.

- 11 [8. There is substantial hunting in the Honeymoon Trail area. This recreational opportunity may be diminished.

Socioeconomic Impacts

Under alternative 1 there will be major socioeconomic impacts caused by the population surges during the construction phases.

- 12 [Alternative 2. The major impacts under alternative 2 would be similar to alternative 1. Air quality, water resources, recreation, aesthetics, and socioeconomics would be similar to alternative 1. About 259 known archaeological sites and one nominated to the National Register would be adversely affected by alternative 2.

- 13 [Alternative 3. The major impacts of alternative 3 would be similar to alternative 1. Air quality, recreation, aesthetics, and socioeconomics would be similar to alternative 1. About 162 archaeological sites would be adversely impacted using central Utah coal, or 419 sites would be adversely affected using southwestern Wyoming coal.

Under alternative 3 the following major water resource impacts are likely:

- 14 [1. The service water quality in central Utah or southwestern Wyoming, or the Alton mine area would be adversely affected.
2. Springs in the Alton mine area would be altered, and there would be an increase in erosion and stream sedimentation.
3. Yields of spring and well water sources in adjacent areas would be adversely affected.
4. Streamflow and water quality would be reduced in the Virgin River system.
5. Potential flood levels would be increased by the construction of the Allen Power Plant.

- 15 [Alternative 4. The major impacts of alternative 4 would also be similar to alternative 1. Air quality, recreation, aesthetics, and socioeconomics would be similar to alternative 1. There is concern that the surface water quality of central Utah or southwestern Wyoming will be adversely affected. About 112 archaeological sites will be adversely affected by using central Utah coal or 627 sites will be adversely affected using southwestern Wyoming coal. There will be a change in existing use of
- 16 [15,176 acres using central Utah coal, or 31,456 acres will be adversely affected using southwestern Wyoming coal.

Response 131-11

According to data presented in the BLM Virgin River Planning Unit, Unit Resource Analysis, hunting is not a major recreational activity in Warner Valley, and therefore is not addressed in the final EIS.

Response 131-12

As discussed in the Cultural Resources section under Alternative 2, Chapter 4 of the final EIS, about 312 archaeological sites would be adversely impacted and one property on the National Register would be destroyed.

Response 131-13

As discussed in the Cultural Resources section under Alternative 3, Chapter 4 of the final EIS, about 183 archaeological sites could be impacted with central Utah coal, or 443 sites could be adversely affected using southwestern Wyoming coal.

Response 131-14

The concerns expressed in this comment are addressed in Response 131-7.

Response 131-15

Due to revisions in the number of estimated sites, Alternative 4 would adversely affect about 130 archaeological sites using central Utah coal, or 645 sites using southwestern Wyoming coal. See the Cultural Resource section under Alternative 4 in Chapter 4, and table 2-19 in Chapter 2 of the final EIS.

Response 131-16

Refer to the Land Use, Land Use Plans and Controls section under Alternative 4 in Chapter 4 of the final EIS for revised acreages affected.

August 26, 1980

Alternative 5. Alternative 5 involves energy conservation and the development of alternative energy sources. The following is a list of socioeconomic advantages which can be obtained by adopting alternative 5:

1. Lowering overall energy cost and consumption to consumers by decreasing energy demand. Energy consumption can be decreased by improving existing levels of insulation and conservation to more energy efficient devices or replacing existing appliances and devices with others that are more energy efficient.

2. Changes in current lifestyle--some of them positive changes--can be made to reduce energy consumption. This appears to be preferable to the lifestyle changes which would result from building the project, including diminished recreational opportunities, increased utility bills, and pollution.

The following reasonable measures are not only appropriate, but are in conformance with stated Congressional policy contained in the National Energy Conservation Policy Act ("NECPA"), and the Public Utility Regulatory Policies Act of 1978 ("PURPA").

1. Moderating thermostat settings for both heating and cooling.

2. Forceful action could be taken to include installation of time thermostats rather than a conventional strictly temperature activated type.

3. The installation of a utility control switch which could turn off air conditioning equipment for brief selected times during peak power demand periods.

4. Reduction of heat loss or gain in buildings and appliances by improving existing levels of insulation.

Alternative energy sources are a feasible and demonstrated option which, together with conservation, would be a preferable alternative to this project.

Alternative 6. Alternative 6 involves no action at all. Such a decision could be based on a finding that it is in the public interest to deny the use of public lands for this project based on environmental concerns, socioeconomic grounds, or on the basis of a finding of no-need for the proposed energy system.

Based on the six alternatives available, and due to the large amounts of public land involved, alternative 5 which involves the conservation of existing energy resources and the development of alternative sources of energy would have the least drastic impact on the environment. The cumulative effects on health caused by long-term exposure to levels of air pollution

Response 131-17

The proposed project would by law meet all requirements of the NAAQS which are designed to protect human health and welfare with an adequate margin of safety. Because of this, no long-range adverse health effects would be anticipated. Refer to the Air Quality sections of Chapter 4 in the final EIS. See Response 51-1 for a discussion of potential acid rain effects.

August 26, 1980

generated by the coal-fired generating systems are not yet known. The large amount of coal that these generating systems will burn; the large amounts of CO₂, SO₂, and other toxic gases which will be released into the atmosphere; and the acid precipitation which would also result from the large amounts of pollutants released into the atmosphere is of great concern.

Large amounts of water--a scarce resource--will also be required to transport the coal in slurry form to the power plants. Water requirements for the mining and coal slurry preparation in the Alton coal fields would be about 10,000 acre feet per year. As many as 22 springs in their present location and condition will be altered by the surface mining. Erosion and sediment yield to streams would also be accelerated by the surface mining. The sedimentation could create maintenance problems at downstream irrigation diversions and canals. In addition, water would be unsuitable for human consumption in the immediate area caused by an increase in dissolved solid concentrations.

The construction of the pipeline and the power transmission systems would destroy the natural habitat of many species of wildlife and vegetation. In addition, many areas which were previously inaccessible will now permit increased access thereby causing destruction of vegetation, disturbance of wildlife habitat, and littering. As noted previously, there are many species of vegetation and wildlife which are officially listed as endangered or designated as candidates for threatened status which will be adversely impacted by the construction of the proposed energy system.

The construction of the Allen-Warner Valley Energy System would have an adverse impact on air quality, water resources and quality, recreation, aesthetics, cultural resources, and socio-economics. These adverse impacts would affect several states, involve thousands of acres of public land, would involve thousands of people, and the pollutants emitted from the proposed energy plants would contribute to an already-existing over-polluted environment. The cumulative adverse effects of the proposed energy system makes it obvious that we must develop and implement nationwide strategy for energy conservation and the development and implementation of alternative energy sources which have a lesser impact on the environment than the proposed Allen-Warner Energy System.

This is what Congress has indicated in its adoption of the Public Utility Regulatory Policies Act of 1978 and the National Energy Conservation Policy Act. If PURPA and NECPA are complied with--and they should be--actions very similar to the conservation/solar alternative will be adopted irrespective of the fate of this project. If those actions are taken, power customers will benefit through lower rates, and an important and inspiring natural resource will be protected.

Very truly yours,

Alan Crespin
Alan Crespin, Legal Intern

Response 131-18

The construction of pipelines and transmission lines would disrupt the habitat of some species, however, following construction these areas would be rehabilitated. The development of roads would be kept to a minimum and developed roads would be rehabilitated following construction to reduce ORV traffic. For a discussion of endangered species which would be affected by the proposed energy system, see Response 131-3.

132

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
324 25th Street
Ogden, Utah 84401

1950
2800
AUG 23 1980



Mr. Morgan Jensen
District Manager
Cedar City District
Bureau of Land Management
P.O. Box 724
Cedar City, Utah 84720

Dear Mr. Jensen:

Regional Office personnel and the Supervisor, Dixie National Forest have reviewed the Draft Allen-Warner Valley Energy System Environmental Impact Statement. Our comments on the draft follow:

Summary

- 1 [Pages S-4 to S-18. We suggest the summary include a discussion on water flow depletion and the expected effects to the aquatic/riparian habitat.
- 2 [Page 2-58 (Table S-20). Aquatic resources and riparian ecosystems are not mentioned in the summary of impacts. An assessment of effects on the aquatic and water related terrestrial species is needed.
- 3 [Page 3-18 (Wetlands and Floodplains). The discussion on wetlands and floodplains is not sufficient. A detailed description regarding the location of wetlands is needed. To say "wetlands and floodplains are not known to exist . . ." is misleading.
- 4 [Vegetation Section. Needs to address the affected riparian ecosystem and vegetation types. This information also needs highlighting in the section on Water.
- 5 [Page 3-19 (Wildlife Species of Concern). The heading should also include "FISH."
- 6 [Pages 4-41, 4-80, 4-88, 4-102, 4-124, 4-134, 4-141 (Wildlife: Species of Concern). The description of the effects on species of concern is too general. The specific species and degree of effect should be presented for each alternative. Also, a separate discussion on the expected effects to fish needs to be included.

U.S. Forest Service, Ogden, Utah

Response 132-1

The Summary of the EIS is not intended to discuss all impacts. Significant impacts are discussed with further discussions occurring in Chapters 2 and 4 of the final EIS.

Response 132-2

Chapter 4 of the final EIS is revised to reflect your comment on assessment of effects on the aquatic habitat for each alternative.

Response 132-3

The Wetlands and Floodplains section of Chapter 3 is changed in the final EIS to reflect your comment.

Response 132-4

Riparian and wetland vegetation would not be expected to be significantly impacted. Flow requirements necessary to protect the endangered roundfin minnow would not cause a reduction of riparian vegetation along the Virgin River. Wetland areas would rapidly recover following a disturbance.

Response 132-5

The headings in the final EIS include the word "fish" as suggested.

Response 132-6

In the discussions of Wildlife: Species of Concern, only general descriptions of impacts are made due to a lack of on-ground information. As stated in these sections, standard operating procedures would include intensive on-ground surveys before construction could begin. This would reduce impacts to critical wildlife habitat by on-ground realignment of necessary construction.

In general, the Wildlife: Species of Concern sections of Chapter 4 are intended for a summary of impacts by alternative. A discussion of impacts to fish is provided in the final EIS to reflect your comment.

Air Quality - Visibility - General Comments.

- 7 1. We believe the EIS should define the visibility criteria used, along with a definition of "Integral Vista" and its application in the Statement. A layman reading the report may gain the impression that National Park boundaries extend to the limits of the integral vistas described.
- 8 2. The draft does not adequately cover the visibility reduction within National Park boundaries. The suggestion is made to break the visibility into two subheadings:
- a. Visibility within National Park boundaries.
- b. Visibility for integral vistas.
- 9 3. The confidence levels, duration of occurrence, and assumptions made for air quality modeling should be included as a narrative under the simulated photos in Figures 4-1, 4-2, 4-7, 4-10, 4-11, and 4-12.
- The appendix treats the many unmeasured or undetermined combinations of meteorological events that control visibility reduction. These would be more properly discussed in the body of the report.
- 10 4. As the EPA air quality studies are incomplete, we cannot determine if the Dixie National Forest airshed will be impacted or not.

From the standpoint of the impact of the various alternatives, we have these comments:

Alternative 1 - Applicant's proposal

- 11 1. The Dixie National Forest would be impacted by increased local population, construction of project facilities, and increased economic growth in the St. George area.
- 12 2. A reduction or elimination of the water flow from the estimated half dozen springs on slopes in the National Forest above the Alton Coal Mine is possible. This could occur by removal of subsurface material or ground water pumping might disrupt subsurface water flows and water pressures from a large area around the surface mine. A reduction of existing springs or flow therefrom would reduce wildlife habitat on adjacent National Forest lands.
- 13 Alternative 2 - Would impact the Dixie National Forest about the same as 1 except the economic growth in St. George would not be as great.
- 14 Alternative 3 - The impact from this alternative would be about the same as in item 1 of Alternative 1 except that the increase in National Forest use would be less and no slurry line would be constructed. St. George's economic growth would be about the same.

Response 132-7

In the draft EIS, visibility was defined in terms of visual range, plume blight, and atmospheric discoloration. Although visual range is very subjective and may not be an adequate measure of what a human observer perceives, current modeling techniques do not allow a more refined analysis.

The final EIS does not discuss integral vistas because NPS is still in the process of identifying them and a formal list will not be promulgated until after November 1980. NPS has to set the criteria to determine whether visibility values in the park would be threatened.

Response 132-8

The visibility impacts that would be of primary concern would be those affecting integral vistas. Visibility degradation within park boundaries would be less likely since the plume would usually be located outside the park. Lines of sight within the park boundaries are also much shorter and would therefore be less likely to be affected by air quality degradation.

Response 132-9

The assumptions made for the NPS visibility impairment study are included in the more detailed discussion given in Appendix 12. The confidence levels and duration of occurrence for the study results were not determined. BLM and NPS recognize the many limitations of this study and have acknowledged this in the Air Quality sections of Chapter 4 of the final EIS.

A discussion of the modeling techniques was considered too detailed to include in the body of the text and was therefore put into the Appendix for review by interested readers.

Response 132-10

The EPA Valley model indicates that the highest SO₂ concentration would occur on Sand Mountain, located near the proposed Warner Valley powerplant. Class II incremental standards would be exceeded there. However, no Class II violations would occur at any locations within the Dixie National Forest.

Response 132-11

Areas surrounding the immediate impact areas would share some of the impacts of increased population demands. This would be especially true of recreational areas which could expect increases in user rates.

Response 132-12

Goode (1980) has discussed the impacts of surface mining on springs in the Alton area. This report is summarized in the Ground Water Pumping for Coal Slurry sections, Water Resources under Alternative 1 of Chapter 4 in the final EIS.

Response 132-13

Refer to Response 132-11 for a discussion on this topic.

Response 132-14

Refer to Response 132-11 concerning your comment.

133

Major

SIGNOFF

OMB Approval No. 29-R0218

Additionally, spring flows would take longer to be affected due to slower mining.

- 15 It needs to be made clear in this alternative whether or not the IPP 230 kv line to St. George would be needed.

- 16 Alternative 4 - Would not impact the Dixie National Forest, but it is not clear how St. George would receive electricity from the Harry Allen Plant as stated in paragraph 3, page S-15.

Alternatives 5 & 6 - Would not affect the Dixie National Forest.

- 17 There may be some question as to the need for the Warner Valley power plant because the EIS for the Intermountain Power Project discussed a proposal to provide electric service to St. George with a 230 KV transmission line across the Dixie National Forest. If the IPP proposal is still viable and it will supply the needed power to the St. George area, another power plant is not needed. The environmental impacts of a transmission line would be much less than 500 or 250 MW power plant.

Sincerely,

Richard K. Griswold
RICHARD K. GRISWOLD
Director
Planning and Budget

Response 132-15

Clarification of the matter is included in the Interrelated Projects section of Chapter 1, and in the discussion of Alternative 6 (No Action) in Chapter 4 of the final EIS. A line would be needed into the area to service IPP members, of which St. George is not included.

Response 132-16

The Summary in the draft EIS was incorrect. St. George would not participate in the Harry Allen powerplant represented in Alternative 4. This correction is included in the final EIS to reflect your comment.

Response 132-17

Your comments concerning the need for power are addressed in Response 132-15.

FEDERAL ASSISTANCE		2. Applicant's application	3. State application identifier	4. Number	5. Federal Employer Identification No.
1. Type of Action	<input type="checkbox"/> Preapplication <input type="checkbox"/> Application <input type="checkbox"/> Notification Of Intent (Opt.) <input type="checkbox"/> Report Of Federal Action	a. Number b. Date	a. Number b. Date	80-80-0044	150199
4. Legal Applicant/Recipient		6. Program		7. Title and description of applicant's project	
a. Applicant Name: Bureau of Land Management		a. Number: 150199		Statement-This statement assesses the environmental consequences of six alternatives designed to meet, at least in part, the base load energy needs of Nevada Power Co., Southern California Edison, Pacific Gas & Electric, & the City of St. George, Utah. The statement focuses on alternative coal fired electrical generating systems, coal sources, water projs, & energy conservation (over)	
b. Organization Unit: Cedar City District		b. Date: 80 07 18		8. Type of applicant's project	
c. Street/P.O. Box: P.O. Box 724		c. Date: 80 07 18		a. State	
d. City: Cedar City		d. Date: 80 07 18		b. County	
e. State: Utah		e. Date: 80 07 18		c. City	
f. Contact Person: David F. Everett, EIS Team Leader		f. Date: 80 07 18		d. State	
g. Zip Code: 84720		g. Date: 80 07 18		e. City	
h. Contact Person: (801) 586-2401		h. Date: 80 07 18		f. State	
10. Area of project impact		11. Estimated number of persons benefiting		12. Type of applicant's project	
Northwest Corner of Mohave Co., Arizona		03		a. State	
13. Proposed Funding		14. Congressional Districts Of:		b. County	
a. Federal \$.00		a. Project		c. City	
b. State \$.00		b. Project		d. State	
c. Local \$.00		c. Project		e. City	
d. Other \$.00		d. Project		f. State	
e. Total \$.00		e. Project		g. City	
16. Project Start Date		17. Project Duration		18. Existing federal identification number	
Date Year month day		Month		19	
18. Estimated date to be submitted to federal agency		19		20. Federal agency to receive request	
Date Year month day		19		(Name, city, state, zip code)	
20. Federal agency to receive request		21. Remarks added		22. The Applicant Certifies That	
Arizona State Clearinghouse		21		a. To the best of my knowledge and belief, data in this preapplication application are true and correct, the document has been duly authorized by the governing body of the applicant and the applicant will comply with the attached assurances if the response is submitted	
Region IV Clearinghouse (Dist. IV)		22		b. If required by OMB Circular A-95 this application was submitted pursuant to instructions thereon, to appropriate clearinghouse and all responses are attached	
23. Certifying representative		24. Agency name		25. Application received	
a. Typed name and title		b. Signature		c. Date received	
26. Organizational Unit		27. Administrative office		28. Federal application identification	
29. Address		30. Federal grant identification		31. Action taken	
32. Funding		33. Action date		34. Starting date	
a. Federal \$.00		19		19	
b. Applicant \$.00		35. Contact for additional information		36. Ending date	
c. State \$.00		(Name and telephone number)		19	
d. Local \$.00		37. Remarks added		38. Federal agency A-95 action	
e. Other \$.00		38		a. In taking above action, any comments received from clearinghouses were considered. If so, they are attached to this application of Part 1, OMB Circular A-95, it has been or is being made.	
f. Total \$.00		39		b. Federal Agency A 95 Official	
39. Federal agency A-95 action		40		(Name and title, signature)	

TO:

Mr. Conrad Schavez, Supervisor
Planning Division
Arizona Dept. of Public Safety
2310 N. 20th Ave.
Phoenix, Arizona 85009

State Application Identifier (SAI)

July 18, 1980 State AZ No. 80-80-0044
Game & Fish Parks
Transportation OEPAD-
Ag. & Hort. P. Bergthc

FROM: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

Public Safety
Center for Pub. Affairs Region IV
Renewable Nat. Res.
Az. Nat. Heritage Prog.
Oil & Gas Cons. Comm.
Bu. of Gology & Min. Tech.
Power
Health
Water
AORCC
Land

This project is referred to you for review and comment. Please evaluate as to the following questions. After completion, return THIS FORM AND ONE XEROX COPY to the Clearinghouse no later than 17 WORKING DAYS from the date noted above. Please contact the Clearinghouse at 255-5004 if you need further information or additional time for review.

☐ No comment on this project ☒ Proposal is supported as written ☐ Comments as indicated below

- Is project consistent with your agency goals and objectives? ☐ Yes ☐ No ☐ Not Relative to this agency
- Does project contribute to statewide and/or areawide goals and objectives of which you are familiar? ☐ Yes ☐ No
- Is there overlap or duplication with other state agency or local responsibilities and/or goals and objectives? ☐ Yes ☐ No
- Will project have an adverse effect on existing programs with your agency or within project impact area? ☐ Yes ☐ No
- Does project violate any rules or regulations of your agency? ☐ Yes ☐ No
- Does project adequately address the intended effects on target population? ☐ Yes ☐ No
- Is project in accord with existing applicable laws, rules or regulations with which you are familiar? ☐ Yes ☐ No

Additional Comments (Use back of sheet, if necessary):

Reviewers Signature

Shirley Carpenter

Date July 23, 1980Title ASD ITelephone 262-8288

Comment form to be Completed by Reviewing Agency

TO:

Joe F. Fallini, Commissioner
State Land Department
1624 West Adams, 4th fl.
Phoenix, AZ 85007
ATTN: Jeff Yeager

State Application Identifier (SAI)

July 18, 1980 State AZ No. 80-80-0044
Game & Fish Parks
Transportation OEPAD-
Ag. & Hort. P. Bergthc

FROM: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

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Additional Comments (Use back of sheet, if necessary):

Reviewers Signature

Jeff Yeager

Date 7/21/80

Title

Telephone

Comment form to be completed by reviewing Agency

TO:

W. E. Allen
Oil & Gas Conservation Comm.
1645 W. Jefferson, Suite 420
Phoenix, AZ 85007

FROM: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

State Application Identifier (SAI)

July 18, 1980 State AZ No. 80-80-0044

Game & Fish Parks
Transportation OEPAD-
Ag. & Hort. P. Bergth
Public Safety
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JUL 21 1980

O & G CONS. COMM.

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Additional Comments (Use back of sheet, if necessary):

Reviewers Signature

WE Allen

Date

7-21-80

Title

EXEC. SECY

Telephone

5161

Comment form to be completed by Reviewing Agency

TO:

Mr. James R. Carter, Director
Agriculture & Horticulture Dept.
421 Capitol Annex West
Phoenix, Arizona 85007

FROM: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

State Application Identifier (SAI)

July 18, 1980 State AZ No. 80-80-0044

Game & Fish Parks
Transportation OEPAD-
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JUL 21 1980
ARIZONA COMMISSION OF
AGRICULTURE & HORTICULTURE

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Additional Comments (Use back of sheet, if necessary):

Reviewers Signature

James R. Carter

Date

7-21-80

Title

Director

Telephone

4373

TO:

Mr. Les Ormsby, Admin.
Arizona Power Authority
1810 West Adams Street
Phoenix, Arizona 85005

FROM: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

State Application Identifier (SAI)

July 18, 1980 State AZ No. 80-80-0044

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Additional Comments (Use back of sheet, if necessary):

Reviewers Signature

Les Ormsby

Date

7/24/80

Title

Telephone

TO:

Mr. James Ayres, SHPO
Az. State Parks Board
1688 West Adams, Room 109
Phoenix, AZ 85007

FROM: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

State Application Identifier (SAI)

July 18, 1980 State AZ No. 80-80-0044

Game & Fish Parks
Transportation OEPAD-
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Additional Comments (Use back of sheet, if necessary):

Reviewers Signature

J. Ayres

Date 22 July 1980

Title State Historic Preservation Officer

Telephone 255-4174

TO:

Dr. James Becker
Center for Public Affairs
Arizona State University
Tempe, Arizona 85281

FROM: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

State Application Identifier (SAI)

July 18, 1980 State AZ No. 80-80-0044

Game & Fish Parks
Transportation OEPAD-
Ag. & Hort. P. Bergthol
Public Safety
Center for Pub. Affairs Region IV
Renewable Nat. Res.
Az. Nat. Heritage Prog.
Oil & Gas Cons. Comm.
Bu. of Gology & Min. Tech.
Power
Health
Water
AORCC
Land

This project is referred to you for review and comment. Please evaluate as to the following questions. After completion, return THIS FORM AND ONE XEROX COPY to the Clearinghouse no later than 17 WORKING DAYS from the date noted above. Please contact the Clearinghouse at 255-5004 if you need further information or additional time for review.

☐ No comment on this project ☐ Proposal is supported as written ☒ Comments as indicated below

1. Is project consistent with your agency goals and objectives? ☐ Yes ☐ No ☐ Not Relative to this agency
2. Does project contribute to statewide and/or areawide goals and objectives of which you are familiar? ☐ Yes ☐ No
3. Is there overlap or duplication with other state agency or local responsibilities and/or goals and objectives? ☐ Yes ☐ No
4. Will project have an adverse effect on existing programs with your agency or within project impact area? ☐ Yes ☐ No
5. Does project violate any rules or regulations of your agency? ☐ Yes ☐ No
6. Does project adequately address the intended effects on target population? ☐ Yes ☐ No
7. Is project in accord with existing applicable laws, rules or regulations with which you are familiar? ☐ Yes ☐ No

Additional Comments (Use back of sheet, if necessary): This brief statement reflects a fine effort, including aggregation of the several relevant Federal actions' impacts; the appraisal of current-years energy conservation accomplishments and potentials; (not displayed for water use). The statement is not clear if the typical energy demand formula that provides over-estimate was used, or, if an updated formula is used. No justification is provided for the environmental impacts, power losses, and costs of the extensive transmission lines. OVER

Prepared by: Prof. Center for Public Affairs Date: Aug 2, 1980
Title: Prof. Center for Public Affairs Telephone: 965-1073

There is no discussion of a basis for the prospective assumption that the public has an obligation to accomodate and provide all facilitation for occupancy at each, any, and every site: sites not habitable, e.g. for lack of energy, might approach their situation without subsidy.

Arizona State Clearinghouse, Phoenix, Arizona

Response 133-1

The Nevada Public Services Commission and CPUC were contacted to assess the need for energy in their respective participating utilities' service areas, and an independent assessment was used by BLM for the city of St. George. The discussion on energy demand is expanded in the Existing and Projected Electrical Energy Demands section of Chapter 3 in the final EIS to reflect your comment.

Concerning the "justification for the environmental impacts" including socioeconomics, the intent is not to justify the impacts of a proposed action or alternatives, but to assess them.

TO:

Frank G. Servin, Exec. Dir.
District IV Council of Gov'ts.
1020 Fourth Ave., Suite 201
Yuma, AZ 85364

FROM: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

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7. Is project in accord with existing applicable laws, rules or regulations with which you are familiar? ☐ Yes ☐ No

Additional Comments (Use back of sheet, if necessary):

Reviewers Signature

Frank G. Servin

Date

8-6-80

Title

Executive Director

Telephone

782-1851

Comments must be completed by reviewing agency

TO:

Art Auerbach, Supervisor
Socio Economic Analysis Section
Dept. of Transportation
206 S. 17th Ave., Rm. 310 B
Phoenix, Arizona 85007

FROM: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

State Application Identifier (SAI)

July 18, 1980 State AZ No. 80-80-0044

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Additional Comments (Use back of sheet, if necessary):

Reviewers Signature

Paul T. Clooz

Date

8-6-80

Title

State Planner

Telephone

261-7251

RECEIVED
JUL 22 1980
SOCIOECONOMIC ANALYSIS

134

TO:

Mr. Terry B. Johnson
Arizona Natural Heritage Progra
39 North Tucson Boulevard
Tucson, Arizona 85716

FROM: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

State Application Identifier (SAI)

July 18, 1980 State AZ No. 80-80-0044

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Transportation OEPAD-
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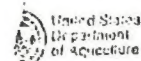
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7. Is project in accord with existing applicable laws, rules or regulations with which you are familiar? ☐ Yes ☐ No

Additional Comments (Use back of sheet, if necessary)

Reviewer's Signature Terry B. Johnson
Title Coordinator, ANHP

Date 8 August 1980
Telephone 323-0867



Rural
Electrification
Administration

Washington
D.C.
20250

ATTENTION: Dave Everett
BLM CEDAR CITY DISTRICT 13
FROM: TOMMY THOMPSON

SUBJECT: Allen-Warner Valley Energy System
Comments on DEIS

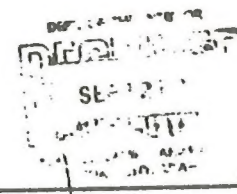
TO: Mr. Tom Thompson
Bureau of Land Management
Department of Interior
Main Interior Building - Room 5070
Washington, D.C. 20240

Per your request, the Rural Electrification Administration (REA) has reviewed the Draft Environmental Impact Statement (DEIS) on the Allen-Warner Valley Energy System. Our present comments are limited to the DEIS itself, but we feel that review of the various documents used to develop the DEIS could lead to further questions. Unfortunately, we could not obtain copies of the supporting information within the comment period. Therefore, we request to be placed on the mailing list for the Final EIS and reserve the right to comment on that document.

Our comments on the DEIS are attached.

JOSEPH R. HINDER
Director
Environmental and Energy
Requirements Division

Attachment



Comments on Allen-Cassen Valley
Energy System DSES

- 1 [pp. 4-147, 4-148: The discussion of the effects on the physical environment is seriously inadequate, for alternative cogeneration, biomass combustion, wind systems, photovoltaics, hydropower, geothermal and even diffuse solar power can have significant environmental effects. (See 45 FR 23661: Small Power Production and Cogeneration Facilities - Environmental Findings - FEAAC)
- 2 [pp. 4-147 : It's stated that environmental impacts for Alternative 5 can't be quantified because specific projects and locales are not identified. Unless the energy mix and its effects can be described with some specificity, we question whether it can be considered a reasonable alternative for purposes of 40 CFR 1502.14.
- 3 [pp. 4-145 to 4-148: There is no discussion under the socioeconomic section of the impact if Alternative 5 is chosen, but the alternative technology mix, load management and conservation do not achieve the results predicted. Will there be massive unemployment or blackouts?
- 4 [pp. 4-143 to 4-145: We question the assumption that a given percentage decrease in consumption of energy will cause a comparable decrease in peak demand. For example, solar heating will decrease total electric consumption but is of little effectiveness on cold, dark days (which is when electric demand peaks often occur).
- At several points, California Energy Commission and California Public Utility Commission documents have been used as sources of data. We have requested these documents but have not yet received them. Consequently, we cannot comment as to their adequacy at this time.
- 5 [Appendix 2, p. 22-3: We question many of the conclusions reached in the subject matrix. As an example, consider item 27 (Use energy conservation and alternate energy sources). What is the basis for determining that it is economically reasonable? While this alternative avoids certain impacts, it creates others. We do not concur that "obviously" it is no worse environmentally than the item replaced. There are trade-offs involved. An appraisal based on subjective value judgments will lead to an opinion, but not an established fact.
- 6 [pp. 2-40 to 2-51: The aspects of Alternative 5 are discussed. However, there is no assessment as to the likelihood that the required public and private actions (not within the authority of the Bureau of Land Management) will in fact be carried out. Without such an analysis, it is difficult to assess the viability and reasonableness of this option.

Rural Electrification Administration, Washington, D.C.

Response 134-1

The discussion concerning the environmental impacts that would occur with the implementation of Alternative 5 is expanded to reflect your comment in Chapter 4 of the final EIS.

Response 134-2

According to CEQ regulation 1502.22(b): "If the information relevant to adverse impacts is essential to a reasoned choice among alternatives and is not known and the overall costs of obtaining it are exorbitant, . . . the agency shall weight the need for the action against the risk and severity of possible adverse impacts were the action to proceed in the face of uncertainty." Also refer to preceding response.

Response 134-3

The environmental impact section under Alternative 5 is expanded to reflect your concern in Chapter 4 of the final EIS.

Response 134-4

The assumption of a proportional relationship between energy consumption and energy peak usage is used for analytical purposes only. The actual relationship may vary depending on energy systems, climate, etc.

Response 134-5

The incorporation of the alternative screening matrix in the selection of reasonable alternatives was used as a scoping tool in order to avoid the rigorous analysis of numerous alternatives. The actual screening was accomplished by those persons working on the project who briefly researched these 46 alternatives, with input from the applicants, other Federal agencies, private individuals and organizations, and with the consultation of existing published information and reports.

Response 134-6

In the analysis of the impacts of the implementation of Alternative 5, it was assumed that the provisions in the alternative would be fully implemented. The impact section is expanded to reflect your concern in the Alternative 5 discussion in Chapter 4 of the final EIS.

F. M. Knight
P. O. Box 2052
Hesperia, CA 92345

135

September 12, 1980

Mr Morgan Jensen, Dist Mgr
Bureau of Land Management
P O Box 724,
Cedar City, Utah 84720

Re Allen Warner Valley Energy
System Transmission Lines

Gentlemen:

This letter is in reference to the portion of subject System which is in the Victor Valley of California.

The route proposed by Edison would cut through North Victorville, between the cities of Adelanto and Victorville which are growing toward each other, through the communities of Mountain View, Baldy Mesa and Oak Hills. All of these areas are experiencing rapid growth and the addition of the proposed corridor with two lines of 140 foot high towers spaced approximately 7 per mile would certainly create a very bad environmental impact. These towers would be the height of a 14 story building and they would be seen for several miles across the landscape- not a very pleasant thought.

Also, Edison expects to leave an approximately 2000 foot wide corridor between their proposed new facilities and the existing Department of Water and Power lines, which would then be to the east of Edison. This would create a "no-man's-land" through about eight miles of very desirable residential land in an area which is now undergoing rapid growth as more and more families recognize the scenic beauty and fine climate of the area. The addition of the new Edison Corridor with the "no-mans-land" would result in an unnecessary and undesirable damaging of property values in the area.

The Edison route would require the acquisition of right-of-way through an area which has been and is being subdivided at a fast rate because of it's superior residential properties. The cost of the right-of-way would be much more expensive to the project than the alternative routes. There are many permanent residents and a much larger number of weekend users of the area. The impact on all of these people would be severe. This can all be eliminated by the choice of one of the alternate routes referred to below.

I would like to propose that the project be built on one of the alternate routes, namely No 1 or No 7 as shown on Fig. 6.13, page VI-12 of the CPUC Draft Environmental Impact Report Dated July 31, 1980. The other routes are definitely less desirable. The choice of one of these routes will be appreciated by hundreds of people in the Victor Valley

Very truly yours,

F. M. Knight

F.M. Knight, Hesperia, California

Response 135-1

Your concerns have been addressed previously in the response to your comments made at the Victorville hearing (Victorville Transcript Response 5-1).

E. J. (JAKE) GARN
UTAH

8181 DUNDON SENATE OFFICE BUILDING
TELEPHONE: 201-224-8444

JOFF M. BINGHAM
ADMINISTRATIVE ASSISTANT

United States Senate

WASHINGTON, D.C. 20510

COMMITTEES:
APPROPRIATIONS
BANKING, HOUSING AND
URBAN AFFAIRS
INTELLIGENCE

Mr. Morgan Jensen
District Manager
Bureau of Land Management
P.O. Box 724
Cedar City, Utah 84720

RE: Formal Comments on Allen-Warner Valley Environmental Impact Statement

Dear Mr. Jensen:

I wish to express my strong support for the Harry Allen--Warner Valley Energy System, and my belief that it is of vital importance to Utahns. I have several comments on the recent Draft Environmental Impact Statement.

Need for the System

There are several inconsistencies in the EIS which demand correction. The EIS contains direct contradictions on the subject of St. George and its need for water and power from the project.

The BLM relied on a seriously flawed study by Centaur and Associates, Inc., which underestimates population, growth rate, and current and projected water and power usage for St. George. In one case, Centaur projects an actual decline in 1980 power usage; while the city records show differently. In another instance, the EIS itself refutes Centaur's growth rate estimates.

Not only city records invalidate the Centaur study, but also the work of independent consultants such as Fox and Company, Burns-McDonnell, Inc., and even the preliminary 1980 census figures. Such differences must be resolved, and the Centaur study discarded for more current and accurate information.

St. George is one of the fastest growing areas in the state. Its power and water needs are also growing, and it is highly irresponsible to suggest --as the EIS does-- that its water needs "are met," and no future growth will alter that fact (EIS, P. s4). It is also unrealistic to assume the city's future power needs will be satisfied by "better conservation," as the EIS states, or by a contract with Utah Power and Light. St. George, and most of Washington County, is dependent on the construction of the Warner Valley power generating station and its reservoir, and I am convinced that there is a well-documented need for it.

Air Quality

The EIS suggests that Class I violations could occur in Zion National

Mr. Morgan Jensen
Page Two

2 Park with the operation of the Warner Valley plant. I am familiar with a study by North American Weather Consultants (May, 1980), concluding that emissions from the generating station will not exceed either Class II or Class I PSD increments for SO₂. This tracer study appears valid, and I will seriously question any EPA review with a contrasting conclusion. Again, BLM seems to have reached conclusions in the face of conflicting facts.

3 The visibility impairment at Zion and Bryce National Parks, noted in the EIS, seems difficult to assess. EPA has only recently published its visibility protection regulations, which I have criticized as vague and excessive. I do not feel that the Clean Air Act (as amended, 1977) mandates such strict protection of areas outside of Class I. I would support the statement of Utah Governor Scott Mitheson, in which he promised to pursue legal remedies if the Allen-Warner Valley Project is halted by these poorly-designed regulations.

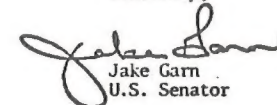
Alton Coal Mine and Slurry Line

I have met with representatives of Utah International, Inc. - leaseholders in the Alton area - and am convinced of the viability of the Alton project. They are preparing a mine plan which would detail their extensive reclamation procedures, and their intention to minimize environmental damage. I am also aware of their commitment to careful use of the water supply, and their promise to insure adequate water for Kanab City.

4 The mine at Alton can play an important role in meeting our national goal of independence from foreign oil through the use of coal. If the Utah State Water Engineer determines that sufficient water exists, I will also support the coal slurry pipeline as the most efficient and environmentally-sound transportation mode.

Sponsors of the Allen-Warner Valley project have overcome many obstacles during the years they have worked for its completion. There are several examples of cooperative agreements and modifications to the design, and these have led to a well-planned project. I am certain that with the necessary corrections to the EIS, and a continued spirit of cooperation, we can work to make the Allen-Warner Valley Energy System a reality.

Sincerely,


Jake Garn
U.S. Senator

JG/lmh

<u>Population</u>	1980	1985	1990	1995	2000	2020
Centaur report, p.1-9 EIS, p. 10-2, table 1	10,946	12, 828	14,394	15,997	17,681	24,416
City of St. George Preliminary census	11,200					
Revised approximation	13,500 - 14,000					
Fox and Co. (1979) consultant for city- 14,824	16,140					
(4100 water users X 3.5 persons = 14,350 currently) (4100 dwellings with 5-6% vacancy rate of rest of state)						
<u>Growth Rate</u>	Centaur, p. 1-9 / EIS, p.10-2 City of St. George EIS, p. 3-3		using 2.03% growth rate and 2.2% using 7 % "which have been experiencing higher growth rates of 7 to 10% "			

Water Needs

EIS, p. 3-4 "Centaur Associates, Inc. indicates the need for a municipal water supply to serve southern Utah Communities has been met by the Snow Canyon Water Project."

City of St. George: City needs grew by 12 cubic feet per second of water from 1967-1979, a growth rate of 1 cubic foot per second per year.
Snow Canyon adds only 6 cubic feet per second of water, which will only last through 6 more years of growth at current rate.

<u>Water supply and use</u>	1977	1979	1980
Centaur, EIS, p. 4-31			4.926 million gallons per day projected
City records of use	9.072 mill/g/d		11.1 million gallons used on 7/29/80 10.0 million gallons per day average

Yet Centaur projects on p. 4-31 of the EIS that the city will require 10.987 million gallons per day for the year 2020 !

<u>Existing power demand</u>	1979	1980	1985	1990	2020
Centaur, EIS, p. 3-33 EIS, p. 3-34	32.5 MW	30.2 MW	35.4 MW	39.8 MW	48.8 MW peak demand
Burns McDonnell Table 1 City of St. George	32.5 MW	34.4 MW	49.0 MW	67.9 MW	123.4 MW peak demand



United States Department of the Interior

WATER AND POWER RESOURCES SERVICE

WASHINGTON, D.C. 20240

137

Jake Garn, U.S. Senator (Utah)

Response 136-1

Our population estimates have been revised to reflect the preliminary 1980 census data. We have also had our population estimates reviewed by the State of Utah for their concurrence.

The need determinations for St. George in terms of its power and water supplies have also been adjusted to reflect our new population estimates.

Please refer to the Socioeconomic section of Chapter 3 and the Purpose and Need of Proposed Project section of Chapter 1.

Response 136-2

BLM appreciates your concern. The tracer study was reviewed by meteorologists at the National Oceanic and Atmospheric Administration, the National Park Service, EPA Region VIII in Denver, and EPA's Source Receptor Analysis Branch at Research Triangle Park, North Carolina. The study was regarded as using sophisticated techniques with good quality control. However, all reviewers also commented that the limited data collected was not adequate to justify the conclusions drawn. Only eight tracer releases were studied and were not conducted during conditions expected to result in the more adverse effects. The reviewers concluded that the results of the study do not show that Class I violations would not occur at Zion National Park. For more detailed information, refer to the reviews which have been added to the appendices.

Response 136-3

The visibility portions have been amended in the final EIS to include more recent studies (refer to Air Quality section, Chapter 4). Additionally, the simulation study has been expanded in efforts to clarify it. BLM acknowledges that potential visibility impairment is a very difficult problem to assess.

Response 136-4

We concur in your assessment. However, management actions regarding the Alton coal lease area are primarily the responsibility of the Office of Surface Mining, therefore, your comments on this issue have been referred to them.

IN REPLY
REFER TO: 720
120.1

SEP 5 - 1980

Memorandum

To: Director, Bureau of Land Management

Assistant
Commissioner

Subject: Review of Allen-Warner Valley Energy System Environmental Impact Statement (DES-80-41)

As requested by letter of June 23, 1980, from Mr. Gary Wicks, State Director, Utah State Office, Bureau of Land Management, the Water and Power Resources Service has reviewed the Draft Environmental Impact Statement on the Allen-Warner Valley Energy System (BLM-DES-80-41). Our review has been from perspectives which relate to (1) the mission of the Water and Power Resources Service, and (2) this agency's expertise in evaluating and documenting the environmental impacts of water and power developments under the Council on Environmental Quality (CEQ) regulations. Our specific comments on the statement relating to how the proposed system relates to our program are as follows.

1 It is noted that in the discussion of the Scoping Process (page 1-4), the environmental scoping issue receiving the highest rating and reflecting the greatest public concern is the hydrological impact of the energy system. Potential sources of water supply for the proposed coal slurry pipeline system and for powerplant cooling appear to merit additional consideration. Alternative water supply plans are only briefly mentioned in Appendix 2, "Screening Matrix for Alternative Selection." Colorado River Basin Salinity Control Program investigations being conducted by Water and Power indicate that the use of saline water for coal slurry transport media and powerplant cooling may offer attractive water supply alternatives for the Allen-Warner Energy System. It is our belief that as the proposed project advances, consideration should be given to the use of saline waters as substitute for fresh or less saline waters, so that water sources identified in ongoing Water and Power salinity studies can be utilized for project purposes when those supplies become available.

2 Under discussion of Interrelated Projects (page 1-8), Water and Power's LaVerkin Springs Unit should be identified or discussed in relation to the proposed action. In addition, the discussion on socioeconomic impacts should say whether LaVerkin Springs was taken into consideration when assessing the socioeconomic impacts from the Allen-Warner Valley Project. If the LaVerkin Springs Unit were constructed at the same time as the proposed project, it would aggravate the socioeconomic impacts.

3 A brief reference to Water and Power field testing at LaVerkin Springs is made on page 3-14. It would be useful and informative to include a brief summary of the LaVerkin Springs Unit in the Final Statement. An excellent summary can be found in the Status Report, LaVerkin Springs Unit, December 1979 (copy enclosed). Since the publication of the Status Report, new alternatives for using or disposing of saline water from LaVerkin Springs related to the Allen-Warner Valley Energy System are now under investigation.

One alternative plan that is being pursued involves transporting the spring's flow (3,300 acre feet/year; 9650 mg/L, TDS) by pipeline (about 15 miles) to the proposed Warner Valley Powerplant site.

After softening, the LaVerkin Springs water would then be used in an advanced cooling tower designed for brackish water use. Waste heat from the powerplant would serve to reduce the final volume of spring flow for disposal. Residual blowdown would be disposed in lined evaporation ponds on site. Thus, the brackish LaVerkin Springs flow could offset a large portion of the 5,000 to 10,000 acre feet/per year fresh water requirement for the Warner Valley Powerplant. Moreover, the accompanying salinity control benefit accorded to water users in the Colorado River Basin is about \$2.5 million per year.

4 This level of economic benefit may justify some Federal cost-sharing involvement to offset the increased cost of using LaVerkin Springs water for such an application.

Another alternative plan with similar salinity control potential involves transporting the LaVerkin Springs flow in the proposed coal slurry pipeline to the site of the proposed Harry Allen Powerplant. The saline spring water, thus delivered, could be blended with water from other sources, treated, and used for cooling with blowdown being disposed in the nearby dry lake. Our investigations of the Las Vegas Wash and Lower Virgin Units may yield opportunities for providing saline cooling water and cost sharing assistance for the proposed Harry Allen Powerplant, similar to that described above for a possible joint effort using LaVerkin Springs flows at the proposed Warner Valley plant. Use of advanced design cooling towers for brackish water may also minimize blowdown volumes and related use of the dry lake for disposal of blowdown in solar evaporation ponds.

Another Water and Power study is examining the potential of a pipeline collection system to transport, use, and/or dispose other saline waters located in the Upper Colorado River Basin. Such a system could provide water for coal slurry pipeline transport from areas such as the Alton Coal Fields.

5 According to present schedules, Water and Power will complete reports based on analytical level studies of the LaVerkin Springs and Lower Virgin Units by Spring 1981 and the Las Vegas Wash and Pipeline Collector/Use Units by Summer 1981. Decisions on whether to proceed with further studies will be made at that time. In any case, we believe that the potential for use or disposal of saline water in conjunction with the Allen-Warner Valley Energy System should be acknowledged in the final environmental statement and, as additional information becomes available, provision should be made for use of saline waters in the project wherever practicable.

Water and Power Resources Service, Washington, D.C.

Response 137-1

We appreciate your suggestions regarding the use of saline waters. The specific alternatives suggested later in your text are considered in this final EIS. As other plans on use of saline waters become more definite, we will attempt to integrate them with this and other actions before the Bureau of Land Management.

Response 137-2

The Interrelated Projects section of the final EIS has been revised to include the LaVerkin Springs unit.

Development of LaVerkin Springs was not considered in the development of the anticipated socioeconomic impact sections. If the LaVerkin Springs unit was constructed at the same time as the AMV energy system it would aggravate the socioeconomic impacts discussed in Chapter 4.

Response 137-3

The Interrelated Projects section of the final EIS has been revised to include the LaVerkin Springs unit.

Response 137-4

Your suggested alternatives have been considered. Please refer to Appendix 2 for an evaluation of your suggestions.

Response 137-5

The Interrelated Projects section of the final EIS has been revised to acknowledge the potential use of saline waters.

In addition to the preceding comments regarding our program we are providing the following general comments for your consideration.

1. The draft Environmental Impact Statement (EIS) needs to incorporate information from other studies in several of the most significant areas. "Participants at the [Project] meetings identified the following as being of primary concern in analyzing the applicant's proposal: hydrology, socioeconomic, air quality value (including visibility), land use, threatened and endangered species, wilderness values, aesthetic considerations, and the impacts of mining in the Alton Coal Fields." Adequate information is not available at this time in many of these areas. For example:

There is a petition pending to determine the suitability of coal mining in the Alton Coal Fields. A determination will not be made until November 30, 1980. The Alton mining plan was not submitted at the time the draft EIS was prepared.

The issue of whether or not the project would have adverse impacts on air quality related values, such as esthetics, of the Class I areas is the subject of several ongoing studies, but remains unresolved at the present time and will not be resolved before October 1980. The impacts on visibility at the Valley of Fire have not yet been determined and will have to await a determination by the State of Nevada.

Biological opinions on the endangered species have not been received from the Fish and Wildlife Service and will not all be in until September 1980. Not all the proposed features have been inventoried for endangered species.

The impacts on fish and wildlife and wetlands from the Warner Valley Water Project have not yet been determined.

Procedures for the protection of historic and cultural properties (35 CFR, Part 800) have not yet been complied with. The construction of the Hurricane Diversion Dam may affect a National Register property and comments have been requested from the President's Advisory Council on Historic Preservation, but they have not yet been received.

Portions of the project are within Wilderness Study Areas in California. Although this issue is being resolved by BLM in consultation with the applicant and the County of San Bernardino, no date for reaching an agreement has been established.

Portions of the Harry Allen powerplant site would be located within the 50-year flood plain and potential flood hazards have not been determined in accordance with Executive Order 11988.

There are still outstanding conflicts with land use caused by the overcrowding of transmission lines.

A BLM preferred alternative has not been identified. (Article 1502.9(a) CEQ Regulations)

Response 137-6

The items you list were noted in the draft EIS. We have attempted to fill these informational deficiencies where possible. Refer to the appropriate sections of the final EIS.

2. More attention should be given on the impacts of the alternatives. While the alternatives do not need to be studied in as much depth as the recommended plan and inventories need not have the same degree of effort, all plans should have some level of field analysis particularly for endangered plants and animals and cultural resources. To simply say that the recommended plan will be inventoried before construction is not sufficient. (Article 1502.14 CEQ Regulations)

3. Vegetation and wildlife losses should be given for each alternative. It isn't sufficient to say that the amount of vegetation disturbed would range from a low of 16,030 acres for Alternative 4 to as much as 36,981 acres for Alternative 1.

4. Executive Orders 11988 and 11990 require that if a project is located in the flood plain, you give a listing of alternatives to locating in the flood plain or explain why there are not alternatives and the project has to be located in the flood plain. The Final EIS should address these issues.

5. In Chapter 4, page 14 the term "Gaussian based visibility model" is used. It would help the average reader if this were described in more detail.

6. The EIS states that the Warner Valley Water Project would have a positive impact on the visual resources of Warner Valley. Whether or not building a reservoir in the middle of a scenic valley would improve the esthetics of the valley is a highly subjective opinion. In view of the fact that during drawdown years the surface of the reservoir would be decreased from 750 to 325 acres, exposing borrow areas and mud flats, and making beaches unsuitable due to the mud, the EIS should acknowledge potential negative visual impacts as well.

7. Stating in the EIS that Alternative 3 could result in 1,376 additional vehicle accidents and 12 fatalities seems to indicate that there could be a serious impact to traffic. More information, other than the Statewide average of accidents and fatalities should be given if possible. It may be that Statewide averages aren't accurate for industrial vehicles in rural areas.

8. Under the No-Action Alternative the EIS says that the utilities could develop several alternatives should the proposed project not be implemented. Such alternatives include: other coal-fired generating stations; nuclear generating stations; conventional and combined-cycle natural gas and oil-fired generating stations; gas turbines; hydroelectric stations; etc. If these are truly alternatives to the proposed action, they should be discussed in the alternatives chapter. (Article 1502.14c CEQ Regulations)

Enclosure

cc: Mr. Gary J. Wicks
State Director
Bureau of Land Management
Utah State Office
136 East South Temple
Salt Lake City, Utah 84111
(w/c of enclosure)

NEVADA DEVELOPMENT AUTHORITY

McCARRAN INTERNATIONAL AIRPORT
P.O. Box 11128 • Las Vegas, Nevada 89111
Area Code (702) 739-8222

Response 137-7

We have provided all the significant information we have available on each of the alternatives.

Response 137-8

Significant impacts to vegetation and wildlife are discussed under each alternative.

Response 137-9

We have contacted the Los Angeles office of the Corps of Engineers regarding an evaluation of the potential floodplain hazards for the Harry Allen powerplant site. We intend to be guided by their recommendations.

Response 137-10

The following definition has been added to our Glossary.

Gaussian Model. The most common atmospheric dispersion model used in air quality impact prediction. It assumes that the pollution plume disperses in a gaussian or normally distributed manner (bell shaped curve).

Response 137-11

The commentor is correct. We have revised the Recreation and Aesthetics sections of Alternatives 1 and 2.

Response 137-12

The truck route described in Alternative 3 has been substantially modified in the final EIS.

Response 137-13

The actions indicated under the No Action Alternative are not considered to be "alternatives" but merely subsequent actions the utilities might take if the AWW energy system is denied.

September 11, 1980

The Honorable Cecil D. Andrus
Secretary of the Interior
Department of the Interior
C Street between
18th & 19th Sts., N.W.
Washington, D.C. 20240

Subject: Support for the Proposed Allen-
Warner Valley Energy System

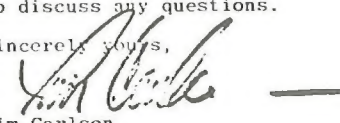
Dear Mr. Secretary:

On behalf of the Nevada Development Authority, I am writing to voice support for the Allen-Warner Valley Energy System. Nevada Development Authority is a private non-profit business organization which represents Southern Nevada business leaders.

The business community of Southern Nevada is vitally interested in the continued economic and industrial growth of this area and realizes the significant benefits anticipated by the Allen-Warner Valley Energy System. For these reasons and those cited in the attached resolution, the Board of Trustees of Nevada Development Authority strongly support this project.

A summary of support by the Southern Nevada business community is presented in the attached resolution. Please retain this for your files and feel free to contact me to discuss any questions.

Sincerely yours,


Tim Carlson
Executive Director

TC/cl
Attachment

RESOLUTION IN SUPPORT OF THE
2,500-MEGAWATT ALLEN-WARNER VALLEY ENERGY SYSTEM

August 5, 1980

WHEREAS, the Nevada Development Authority is a private, non-profit business corporation vitally interested in the continued economic and industrial growth of Southern Nevada, and

WHEREAS, the Nevada Power Company sustained a record power demand of 1,418 megawatts on July 25, 1980, and

WHEREAS, this record demand was 245 megawatts below the Nevada Power Company's generating capabilities, but 32 megawatts above this year's projected demand, and

WHEREAS, the Las Vegas Metropolitan area has approximately 450,000 residents, and

WHEREAS, the Las Vegas Metropolitan population is projected to grow 122 percent or to 1,000,000 by the year 2,000, and

WHEREAS, the Southern Nevada area has experienced and will continue to experience tremendous growth in the tourism, manufacturing and warehousing industries in the years ahead, and

WHEREAS, the possibility of establishment of the MX Missile System in Southern Nevada is growing steadily as the weeks progress, and

WHEREAS, the MX Missile System would have a profound impact on the local population and the socio-economic structure of Southern Nevada, and,

WHEREAS, Las Vegas, as part of the entire national economic picture, should not lose ground in the worldwide marketplace, and

WHEREAS, operation of the Allen-Warner Valley Energy System would utilize abundant U.S. produced coal, thereby significantly reducing America's projected need and dependence on uncertain foreign oil supplies;

NOW, THEREFORE BE IT RESOLVED, that the Nevada Development Authority, representing more than 300 local businesses and corporations and their employees, does hereby fully endorse the entire 2,500-megawatt Allen-Warner Valley Energy System as a means to continually provide the best possible and most cost-efficient electrical service to customers of the Nevada Power Company in the future.


Fred D. Gibson, Jr., President
Nevada Development Authority

Nevada Development Authority, Las Vegas, Nevada

Response 138-1

Your views are noted and will be considered in the decision making process.

LETTERS WITHOUT PRINTED RESPONSES

The following letters of comment on the draft EIS were received too late for a response to be prepared in time for inclusion in the final EIS. Each commentor will receive a personal reply at a later date responding to the questions raised in the letter of comment.

Comment Letter Number 139 Edward K. Norvaisis

4455 Willow Rd Drive
Dayton, OH 45430
3 Sep 80

US Department of the Interior
Washington DC 20240

ATTN: Mr Cecil B. Andrus, Secretary

I am writing with regard to Docket Number 79-5-001 which describes plans to develop the Allen Warner Valley Energy System in Southwest Utah and vicinity. Under this plan, a huge strip mine will be developed just outside Bryce Canyon National Park and visible from the park. In addition to the usual destruction associated with strip mining, dust and haze will destroy the extraordinary visibility of the area. Worse than this will be the reduction of air quality in Southern Utah from the two coal burning power plants that will burn the strip-mined coal.

Now, I understand our need for new energy sources, including coal burning power plants. But the area in Southern Utah is unique. Nowhere else in the world is there such a diversity of landforms: canyons, buttes, arches, towers, mountains. A large number of National Parks and primitive areas exist to preserve some of these features. To degrade and destroy such areas via strip mines and flyash and SO₂ fallout would be criminal. There is a large "backlog" of undeveloped leases of coal bearing lands already. If strip mining must be done, surely some of these other leases can be developed instead. Of all the coal bearing lands, the lands in Southern Utah should be given a low priority for development compared to other areas.

Sincerely,

Edward K. Norvaisis
EDWARD K. NORVAISIS

PUBLIC HEARINGS COMMENTS AND RESPONSES

Public hearings were held during the draft EIS comment period at the following places and dates: Victorville, California (July 28, 1980); Las Vegas, Nevada (July 29, 1980); Kanab, Utah (July 30, 1980); St. George, Utah (July 31, 1980); and Salt Lake City, Utah (August 5, 1980). Speakers at the public hearings are listed in order of appearance. The oral presentations made by the speakers are not reproduced in their entirety because of the length of the transcripts. Instead, the significant issues discussed by the speakers are excerpted and BLM responses are adjacent.

Speakers who presented written documentation of their oral testimony are indicated with an asterisk (*). These exhibits or letters are reproduced in their entirety, with BLM responses adjacent to the points addressed. The exhibits are located after the respective testimony for each hearing. Where letters were received that reiterated oral testimony, the reader is referenced to the preceding letter Comments and Responses section of this volume.

Victorville Public Hearing

SPEAKER

1. John Arlidge*, Nevada Power Company
2. Robert L. Boyington*, Division Vice President, Southern California Edison
3. Patrick Vidal, Pacific Gas & Electric Company
4. Mayor James G. Larkin*, St. George, Utah
5. John D. Lund
6. F.M. Knight

1. John Arlidge, Victorville Testimony

Refer to Victorville Exhibit 1.

2. Robert L. Boyington, Victorville Testimony

Refer to Victorville Exhibit 2.

3. Patrick Vidal, Victorville Testimony

VT Comment 3-1

The California Energy Commission states that California has a need for new coal-fired powerplants. In its Biennial Report, the Energy Commission indicated a need to develop up to 5,000 megawatts of in-state and out-of-State coal-fired generation in the next 10 years, and referred to Allen-Warner Valley in its analysis.

As Southern California Edison's representative has mentioned, the California Public Utilities Commission will make the final determination whether the Allen-Warner Valley energy system is necessary for California. A great deal of time and energy is being expended by all concerned parties to explore the energy system's benefits.

VT Response 3-1

The input of CPUC in the determination of the need of AWV for the participating California utilities is included in the Purpose and Need of Proposed Project section of Chapter 1 in the final EIS.

VT Comment 3-2

The California Energy Commission staff, in Alternative 5 in the draft EIS, suggests that there may not be a need for some or all of the energy system. The Energy Commission staff has recommended that the Public Utilities Commission reduce PG&E's participation in the project by greater than 50 percent of our proposed share.

Although the full Energy Commission has deferred adoption of a final position on the project's need until further review, the Energy Commission staff's suggestion has been included in the draft EIS and therefore should be addressed at this hearing.

PG&E believes strongly that conservation and rapid development of alternative technology must be an integral part of our energy supply strategy. Our company has stated that encouraging conservation must be our first priority. And we have a national reputation of innovative and aggressive programs that reflects this attitude.

Daily we also are making strides toward including renewable and alternative technologies in our resource plans. These include wind, hydro, geothermal, biomass, and cogeneration projects.

But regardless of our commitment to these renewable and alternative technologies, and our belief that they can and will help supply our customers' energy demand in the future, we are faced with the immediate need for power in an international climate that demands we reduce our use of oil.

We believe coal must provide the bridge to the 21st century to meet this goal and supply our customers' needs. The availability and reliability of alternative technologies are simply too uncertain to wholly count on at this time.

Therefore, PG&E and northern and central California do need their full share of the available energy system power.

VT Response 3-2

The analysis of Alternative 5 in Chapters 2 and 5 is revised in the final EIS to incorporate the most recent information used by CPUC in their proceedings to answer the application of the California utilities to participate in the project.

VT Comment 3-3

The Allen-Warner Valley Energy System will provide substantial benefits to the States of California, Nevada, and Utah. It will provide an economic and reliable source of electricity for rate payers. It will displace the use of foreign oil. It will provide employment and a strong tax base for local communities. Especially today, there is a need for all these benefits.

VT Response 3-3

Refer to the Purpose and Need for Proposed Project section in Chapter 1 of the final EIS.

4. James G. Larkin, Victorville Testimony

Refer to Victorville Exhibit 3.

5. John D. Lund, Victorville Testimony

VT Comment 5-1

I'm a little concerned about the transmission lines that are coming into the local area, because they're coming into private lands and they're going to be railroaded on to me, and I'm going to have to give up my private land. And I do have a couple -- a few acres that are going to be taken away from me if these transmission lines come in the way they say they're going to come in.

Therefore, I'm here objecting to that specific thing because I just don't want my land taken away from me, land that I've paid pretty hard dollars for. And I'd like to see some consideration given to having these transmission lines come along a little bit more viable alignments than the ones that they're coming along now. For instance, the 2,000 feet between an existing transmission line and the proposed transmission lines. I just don't think it's necessary. It's necessary in order to preclude the possibility of shorting out in the event that one of the lines is broken by some dumb pilot that flies through it, you know.

I just don't think that's necessary. The congestion that we're facing throughout the country, as far as that goes, is just one of those things we're going to have to live with. And if some dumb pilot flies through a line and shorts out the rest of them, and we go without power for a while, that's just one of the things we have to face up to.

VT Response 5-1

As stated in the BLM Preferred Alternative section in the final EIS, proceedings to select the final transmission line routing in southern California are ongoing. The final overall route would be determined by on-ground surveys with input from CPUC in cooperation with BLM. Precise location of any transmission lines across private lands would have to be negotiated between the project applicants and private landowners.

6. F.M. Knight, Victorville Testimony

VT Comment 6-1

But the thing that was of interest to me, the same with Mr. Lund, is the transmission facilities at the western end of the project. Now the impact statement glossed over that completely and showed that they all go into Lugo in the same route. At the meeting last Thursday, the Public Utilities Commission representatives had an additional map available for those of us who were interested in the transmission facilities in the west end.

And they showed us seven different alternative methods of bringing that power into Lugo substation from some location up near Barstow, and so forth, at different points. Now, if this is going to be all we're going to get from the BLM, then I'd like to know that. Are we going to get any of these alternative routes from BLM?

VT Response 6-1

The BLM EIS does not analyze in detail the seven subalternative transmission corridors to bring power to the Lugo substation; however, BLM is relying on CPUC studies for these alternatives and would cooperate with CPUC in route selection. Refer to Victorville Public Hearing Response VT 5-1 for a discussion of the determination of transmission line routing in southern California.

VT Comment 6-2

Now the thing that most of us here are objecting to is the fact that this line shows at the west end a line which goes through north of Victorville and then goes southwesterly approximately 2,000 feet from an existing Department of Water and Power corridor. But they are going to have a 2,000-foot spacing between the existing Department of Water and Power corridor, which we can't do anything about -- it's been there for 40 years, and the new line.

Now the new line is going to have seven towers to the mile. And each of these towers is the height of a 14-story building. So every 1,600 feet, approximately, you're going to have the equivalent of a 14-story building sticking out on the landscape out here on the desert, west of Victorville and Apple Valley and Hesperia.

And while, as I say, we can't do anything about the ones that are there, they're only about 120 feet high instead of 140. I guess maybe 110, the Department of Water and Power lines. But anyway, we don't like this.

There's another factor, too, and that is that the community is building up rapidly, southwest of Victorville. There's quite a few areas there that have recently put in new water systems. And people are moving into the area.

Now, we have proposed an alternate route. And the PUC people brought a map which showed seven different alternate routes. And several of them, we think, are very good.

What they do is, they route the line in one or two cases on an existing corridor that Edison built several years ago, which goes directly east from Lugo, crosses over the Mojave River, south of the populated area of Apple Valley, and goes over the Ord Mountains and then extends in a northeasterly direction from that point.

And I raised the question of why that route was not looked upon favorably. And they said, well, that you'd see the powerline or the towers. Well, my gosh, if you -- they'd be up in the mountains, sure. There's towers there already. But when you put them out here where people are living, and it's a very desirable area for people to move into, and you're getting a lot of people coming up from down below in the Hesperia, San Bernardino area where they work. And they live up here, and they don't want to come up here and know that they're going to have a 14-story building every 1,700 feet across the landscape in front of their house.

VT Response 6-2

Your views are noted and will be considered in the decision making process. Refer to Victorville Public Hearing Response VT 5-1 and VT 6-1 for a discussion of this concern.



STATEMENT FOR PUBLIC HEARINGS
ALLEN-WARNER VALLEY ENERGY SYSTEM
ENVIRONMENTAL IMPACT STATEMENT DRAFT

June 23, 1980

John W. Arlidge

We compliment the Bureau of Land Management for completing the difficult job of compressing the more than eight feet of submitted background material into this Draft Statement on the Allen-Warner Valley Energy System. The job was a complicated and difficult one and took place over a period of five years during which policy and regulations were being changed continuously. There are a number of areas where we think it will be desirable to make detailed technical written comments which we intend to do. However, for the public hearing we wish to make only a few general points.

The participating electric utilities have developed the Allen-Warner Valley Energy System in an effort to assure an economic and reliable power service for their customers during the late 1980's and thereafter. The Energy System will provide 2,500 megawatts of electric power using abundant Southern Utah coal supplies, a major contribution to the effort to reduce our growing dependency on the use of foreign oil. The Participants have taken every feasible measure to assure that every component will meet or exceed every regulatory standard placed upon the project.

Specifically, items within the draft Environmental Impact Statement which we want to comment on during this public hearing are:

1. Page S-4, the Draft states that Radian (consultant to the Bureau

Victorville Exhibit 1
John W. Arlidge, Nevada Power Company

VE Response 1-1

The projected displacement of oil and the need of the AWV project is presented in the revised Purpose and Need of Proposed Project section of Chapter 1 in the final EIS.

of Land Management on air quality) indicates that emissions from the Harry Allen Power Plant could cause violations of Class I Standards in the Nevada Valley of Fire State Park.

The Valley of Fire is not a Class I area, it is a Class II area, and studies show that the Harry Allen Plant will not exceed the Class II area regulations. The study by Radian was designed to perform increasingly detailed analysis only as required to show whether violation of standards actually occurred. Whenever simple calculations showed that no violation could occur the procedure was stopped. In the case of the Harry Allen impact on the Valley of Fire, Radian reported that when it was learned that the Park was no longer considered for redesignation to PSD Class I, the numerical modeling application was determined to be unnecessary. The conservative modeling of the Allen Station resulted in PSD levels well below the allowable Class II increments. Radian's results for the Paiute Primitive Area where the procedures were not stopped showed that the use of numerical modeling reduced the maximum concentration estimates by a factor of forty to fifty for the PSD calculated increment. Thus, if Radian had continued with its numerical modeling of the Allen Station impact on the Valley of Fire, there is every reason to believe that the calculated impact on Valley of Fire would be well within the Class I standards.

2. Page 5-5, The Draft states that there are conflicting study results on air quality modeling. The only (quote) modeling (unquote) which has indicated possible exceedances of PSD for

VE Response 1-2

Refer to Letter Response 88-11 for a discussion pertaining to this comment.

VE Response 1-3

The Valley model was designed to estimate pollution concentrations in areas of rough terrain. It gives the maximum concentrations using conservative assumptions and is therefore often employed as a screening model to determine whether more refined modeling is required. If the Valley model indicated that no violations would occur, then no further modeling would have been required. However, the Valley model indicated that there would be PSD violations for both the Harry Allen and the Warner Valley powerplants. A more refined model would have to be used to prove that no violations would occur. To date, no other model has been agreed upon between the applicants and EPA.

either the Warner Valley or the Harry Allen Station has been the Environmental Protection Agency screening test. Some experts state that EPA screening test is not applicable to rough terrain such as found in Southern Utah and Nevada. Studies by the State of Utah, Bureau of Land Management consultants and by this Company's consultants indicate that there will be no violations of PSD increments. We are presently working with EPA Region VIII and IX to resolve the differences between the EPA screening test and the computer modeling studies.

3. Page S-5, The Draft mentions the possible visibility impacts on Zion National Park due to the operation of the Warner Valley Power Plant. The photographic simulations within the report, we feel, are quite misleading.

A printed computer simulation is a very hazy image and certainly does not reflect a true image. The resolution of the television monitor used for the computer simulations does not have the resolution of a modern photographic plate. The comparison of a computer simulation and photograph in the Draft does mislead the reader.

The meteorological conditions existing in the photograph are not indicative of the highly stable conditions used for projection of the plume concentration. This again misleads the reader.

The transport of a plume from Warner Valley to Zion National Park under highly stable conditions, considered in the visibility

VE Response 1-4

The visibility simulations in the Air Quality section under Alternative 1 in Chapter 4 of the final EIS are revised to reflect your comment.

VE Response 1-5

Refer to Letter Response 88-115 for a discussion concerning plume projections.

study, is an impossibility and certainly the trajectory of the plume shown in the Impact Statement is also impossible. To follow that trajectory the plume would have to be elevated at least 1,000 feet above the height it would obtain under the specified conditions and travel through intervening higher terrain in order to enter the vista depicted in the photographs.

Finally, we believe the nitrous oxide concentrations used for Plume projection in the photograph were inaccurate. A plant the size of Warner Valley Station, meeting the new source performance standards of the federal government, will not produce the brown haze as shown in the Impact Statement.

4. Page S-5, Development of water at the Alton Coalfield for slurry transportation cannot impact existing uses of water as indicated in the Impact Statement and still comply with the laws of the State of Utah. Before any capital investment in the power plants will be made, it will require that the utilities have very definitive proof that water will be available for the life of the project. The position of the utilities participating in this project is this water must be available in accordance with State law and without interference of water use established prior to construction of this project.

5. Page S-7, Statements of possible damage to national historic monuments fail to recognize the results of efforts of both the Washington County Water Conservancy District and the power plant

VE Response 1-6

The modeling techniques take into account particulates, sulfate and nitrate aerosols, and NO_2 . The contribution of NO_x to the visibility deterioration is not known; however, some effect of NO_x may be possible. The modeling assumed a stable atmosphere with light winds and the observer looking directly down the centerline of the plume. NO_x emissions can be controlled only to a limited degree and even under the NSPS, emissions of NO_x would still be higher than emissions for any other pollutant.

VE Response 1-7

Your concern that the Utah State Engineer must approve the allocation of water necessary for the AWV project is discussed in the Role of Utah State Engineer section under Alternative 1 in Chapter 4 of the final EIS.

VE Response 1-8

Refer to Letter Response 86-8 for a discussion pertaining to your comment.

owners regarding historic places. We have worked with the State Historical Officers of each of the states to assure that historical sites are identified and preserved as required by the state officer.

6. We do not believe the Statement accurately describes the total impacts and effects of the alternatives as compared with the project proposal. Apparently the emissions for different size coal plants have been estimated using certain unstated and untested assumptions. It is not clear that these assumptions were correct and a preliminary review of the emission values show them to be too low.

In addition, the use of rail transportation as opposed to slurry transportation also fails to show the critical need for this country to reduce its use of liquid fossil fuels. The Statement also fails to indicate the economic feasibility of such alternatives.

Also, the alternatives do not indicate the impacts of not providing the total power needs of the communities.

We will certainly comment more on the alternatives in our written statements.

7. Lastly, we feel that the socioeconomic impacts presented within the impact statement for all areas are inaccurate. We find it very difficult to believe that a peak construction force in the

VE Response 1-9

The emissions were calculated using EPA approved emission factors, assuming pollution controls committed to by the applicants according to the BACT requirements.

VE Response 1-10

Refer to the revised railroad alternative to the coal slurry pipeline in the Scoping Process section of Chapter 1 in the final EIS for a discussion of your concern.

VE Response 1-11

Refer to the revised Purpose and Need of Proposed Project section in Chapter 1 and Alternative 6 in Chapter 4 of the final EIS for a discussion of power needs and impacts without the AWV project.

VE Response 1-12

The baseline and impact projections are revised to reflect your comments. See the Socioeconomic sections of Chapters 3 and 4 and Appendixes 11 and 17 of the final EIS.

St. George area, of 992 people for a three-month period in 1983, would cause a population growth of 8,000 in the community in 1985. These large population estimates are shown throughout and certainly are not justified by the direct employment estimates provided the Bureau of Land Management by the project proponents.

As I said earlier, there are a number of areas which will require technical comments and certainly there is a need to identify areas where unintentional inaccuracies occur during preparation of the draft. We will provide the Bureau with detailed written comments in both of these areas. Again, we compliment the Bureau on the compression of so many facts into the Draft.

We are available during and after the public hearings for anyone within the public who has questions regarding the Energy System.
/ab

SOUTHERN CALIFORNIA EDISON COMPANY'S PRESENTATION
BUREAU OF LAND MANAGEMENT PUBLIC HEARING
ALLEN-WARNER VALLEY ENERGY SYSTEM

-2-

ENERGY INDEPENDENCE

THE ALLEN-WARNER VALLEY ENERGY SYSTEM WILL SUPPORT THE NATIONAL GOAL TO REDUCE OUR DEPENDENCE ON OIL AND WILL PROVIDE ECONOMICAL ELECTRICAL GENERATION TO HELP KEEP THE PRICE OF ELECTRICITY DOWN.

THE NATIONAL GOAL OF REDUCING OUR DEPENDENCE ON FOREIGN OIL GAINS READY ACCEPTANCE AT ALL LEVELS OF GOVERNMENT AND SOCIETY. AS PRESIDENT CARTER AND GOVERNOR REAGAN HAVE BOTH SAID, THE SURVIVAL OF THE UNITED STATES DEPENDS ON ITS ABILITY TO REDUCE OUR TIES TO OPEC OIL.

YET, DESPITE EFFORTS BY THE FEDERAL GOVERNMENT TO REDUCE OIL IMPORTS, SINCE THE ANNOUNCEMENT OF PROJECT INDEPENDENCE BY

PRESIDENT NIXON NEARLY A DECADE AGO, THE U.S. HAS DOUBLED ITS IMPORTS OF OPEC OIL.

THE WESTERN STATES ARE IN A UNIQUE POSITION TO RESPOND TO THE NATIONAL CHALLENGE TO REDUCE IMPORTS OF FOREIGN OIL. PROVEN LOW-SULFUR COAL RESERVES IN THE WEST TOTAL 200 BILLION TONS, OR 40% OF THE NATION'S SUPPLY. AT OUR PRESENT RATE OF CONSUMPTION, THAT IS ENOUGH COAL TO PROVIDE FOR THE COUNTRY'S TOTAL ENERGY NEEDS FOR THE NEXT 200 YEARS.

SOUTHERN CALIFORNIA EDISON BELIEVES THAT REGIONAL ELECTRIC POWER PROJECTS UTILIZING COAL SHOULD BE BUILT IN THE WEST, AND THAT ENORMOUS BENEFITS WILL BE GAINED BY ALL CONCERNED IF THESE REGIONAL PROJECTS CAN CONTINUE TO BE CONSTRUCTED AND OPERATED.

THE COAL-FIRED ALLEN-WARNER VALLEY ENERGY SYSTEM IS A GOOD EXAMPLE OF A PROJECT THAT CAN BENEFIT THE NATION AND THE SOUTHWEST. THIS PROJECT WILL EVENTUALLY SERVE CUSTOMERS OF FOUR UTILITIES IN THREE STATES, SAVING THE EQUIVALENT OF 25 MILLION BARRELS OF OIL ANNUALLY.

COMPETING CONCERNS AND POLICIES

EDISON AND THE OTHER PROJECT PARTICIPANTS ARE DEFINITELY CONCERNED WITH THE ENVIRONMENTAL IMPACTS THAT HAVE BEEN EXPRESSED ABOUT THE ALLEN-WARNER VALLEY ENERGY SYSTEM. NEVADA POWER COMPANY, WHO IS THE PROJECT MANAGER OF THE ALLEN-WARNER VALLEY ENERGY SYSTEM, TOGETHER WITH SEVERAL FEDERAL AGENCIES, HAS WORKED TO MITIGATE ENVIRONMENTAL IMPACTS OF THE ALLEN-WARNER ENERGY SYSTEM. MORE THAN SIX YEARS OF ENGINEERING AND ENVIRONMENTAL STUDIES HAVE BEEN CONDUCTED AT A COST OF MORE

THAN \$9 MILLION. AIR QUALITY EMISSIONS FROM THE PLANTS WILL MEET APPLICABLE EPA STANDARDS TO PROTECT THE PUBLIC HEALTH AND WELFARE. WORK IS ALSO BEING DONE TO MITIGATE POTENTIAL VISIBILITY IMPACTS.

THE MAJORITY OF WATER FOR THE PROJECT WILL BE TREATED WASTE WATER AND UNAPPROPRIATED RIVER WATER. ONGOING RESEARCH IS BEING CONDUCTED BY THE BLM AND THE U.S. FISH AND WILDLIFE SERVICE TO PROTECT THREATENED OR ENDANGERED SPECIES.

THERE WILL BE REGIONAL BENEFITS THAT ACCRUE FROM THE ALLEN-WARNER VALLEY ENERGY SYSTEM. IN A MOMENT, I WILL DISCUSS THOSE BENEFITS, BUT FIRST LET ME OVERVIEW THE BENEFITS TO THE CUSTOMERS OF EDISON.

BENEFITS TO CUSTOMERS OF SOUTHERN CALIFORNIA EDISON

THE ALLEN-WARNER VALLEY ENERGY SYSTEM WILL PROVIDE SEVERAL BENEFITS TO EDISON'S 2.8 MILLION CUSTOMERS THROUGHOUT THE CITIES AND FARMS OF SOUTHERN CALIFORNIA. FIRST, THE PROJECT WILL PROVIDE A SIGNIFICANT PORTION OF THE RESOURCES NEEDED TO MEET THE DEMANDS OF EDISON'S CUSTOMERS FOR ELECTRICAL ENERGY. BASED ON OUR RECENT FORECASTS, EDISON PREDICTS THERE IS A NEED FOR MORE THAN 6000 MW OF NEW GENERATING CAPACITY TO SERVE FORECAST LOADS IN 1990. THE ALLEN-WARNER VALLEY ENERGY SYSTEM WILL PROVIDE 1045 MW OF THIS NEED. THE CALIFORNIA ENERGY COMMISSION OFFICIAL STATE FORECAST AGREES THAT EDISON NEEDS 6604 MW ADDITIONAL CAPACITY BY 1990 AND THAT THE ALLEN-WARNER VALLEY ENERGY SYSTEM IS NEEDED AS A NEW GENERATION RESOURCE BY EDISON IN THE LATTER PART OF THE 1980s.

Victorville Exhibit 2
Southern California Edison Company

VE Response 2-1

Refer to the Purpose and Need of Proposed Project section of Chapter 1 and the Existing and Projected Electrical Energy Demand section in Chapter 3 of the final EIS for a discussion of energy needs.

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2

ADDITIONALLY, THE ALLEN-WARNER VALLEY ENERGY SYSTEM WILL HELP TO REDUCE EDISON'S HEAVY DEPENDENCE ON FOREIGN OIL. DURING 1979, THE EDISON SYSTEM DERIVED MORE THAN 65% OF THE NEEDED ENERGY PRODUCTION FROM NATURAL GAS AND HIGH-COST IMPORTED OIL. TO MEET THIS NEED, EDISON IMPORTED APPROXIMATELY 50 MILLION BARRELS OF OIL. THE ALLEN-WARNER VALLEY ENERGY SYSTEM IS EXPECTED TO REDUCE EDISON'S OIL CONSUMPTION BY APPROXIMATELY 10 MILLION BARRELS PER YEAR. THE ADDITION OF THE ALLEN-WARNER VALLEY ENERGY SYSTEM IS CONSISTENT WITH BOTH THE CURRENT NATIONAL ENERGY POLICY AND THE CALIFORNIA ENERGY COMMISSION'S ADOPTED POLICY OF CUTTING CALIFORNIA'S OIL DEPENDENCE IN HALF BY 1990.

3

SOME CONFUSION HAS OCCURRED ABOUT WHO WILL DETERMINE EDISON'S NEED FOR THE ALLEN-WARNER VALLEY ENERGY SYSTEM. SOME APPEAR TO BELIEVE THAT THE CALIFORNIA ENERGY COMMISSION WILL BE THE

VE Response 2-2

Refer to the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS for a discussion concerning displacement of oil fired capacity.

AGENCY WHO DETERMINES EDISON'S NEED FOR THE ALLEN-WARNER VALLEY ENERGY SYSTEM. UNDER THE CALIFORNIA PUBLIC UTILITIES CODE, THE JURISDICTION TO DECIDE THE NEED FOR THE PROJECT LIES EXCLUSIVELY WITH THE CALIFORNIA PUBLIC UTILITIES COMMISSION. THIS DETERMINATION WILL BE BASED, IN PART, ON THE CALIFORNIA ENERGY COMMISSION'S TESTIMONY ON THE LEVEL OF ESTIMATED NEED IN THE STATE'S OFFICIAL FORECAST AND, ACCORDING TO A RECENT CALIFORNIA PUBLIC UTILITIES COMMISSION DECISION, IN PART, ON THE ECONOMIC CONSIDERATIONS TO EDISON'S CUSTOMERS.

REGIONAL BENEFITS

JUST AS THE COUNTRY, AS A WHOLE, IS DEPENDENT ON PRODUCTS FROM OTHER COUNTRIES--MOST NOTABLY OIL--EVERY STATE IN THE UNION, AND THE WESTERN STATES IN PARTICULAR, IS DEPENDENT UPON EACH OTHER FOR VIABLE ECONOMIES. UNLIKE THE SERIOUS NEGATIVE

VE Response 2-3

BLM agrees with this statement, as discussed in the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS.

SIDE-EFFECTS THAT RESULT FROM AMERICA'S DEPENDENCE ON OPEC, THE INTERDEPENDENCE OF THE STATES AND REGIONS OF AMERICA HAS RESULTED IN STRENGTH AND PROSPERITY.

433
THERE IS A NATURAL TENDENCY TO SEE ONLY THE NEGATIVE EFFECTS OF REGIONAL POWER PLANT PROJECTS AND A FEELING ARISES THAT THE STATES RECEIVING THE POWER, PARTICULARLY CALIFORNIA, ARE GETTING ALL THE BENEFITS.

4 THE FACTS ARE THAT EVERYONE BENEFITS AND SHARES IN THE DISADVANTAGES. REGIONAL ELECTRIC POWER PROJECTS ARE VERY DEFINITELY A TWO-WAY STREET. ELECTRIC LOAD CENTERS ARE ALSO THE MANUFACTURING CENTERS. LAST YEAR ALONE, CALIFORNIA EXPORTED BILLIONS OF DOLLARS IN MANUFACTURED GOODS TO THE OTHER WESTERN STATES.

MY REASON FOR OUTLINING THESE POINTS IS NOT TO MINIMIZE THE LEGITIMATE CONCERNS OF STATES THAT PRODUCE THE COAL, OR PROVIDE THE SITE, OR ALLOW THE TRANSMISSION LINE RIGHTS OF WAY SO THAT WE, ON THE PACIFIC COAST, MIGHT BENEFIT. RATHER, I WANT TO EMPHASIZE THAT WE ALL SHARE THE BENEFITS AND DISADVANTAGES OF REGIONAL ELECTRIC POWER PROJECTS.

5 REGIONAL POWER PROJECTS SUCH AS THE ALLEN-WARNER VALLEY ENERGY SYSTEM SHOULD PLAY AN IMPORTANT ROLE IN REDUCING OUR DEPENDENCE ON FOREIGN OIL CARTELS. WE MUST RECOGNIZE THAT SOLUTIONS TO OUR ENERGY SUPPLY PROBLEMS EXTEND BEYOND COUNTY AND STATE AND DEPEND UPON OUR ABILITY TO COOPERATE IN SECURING THE COMMON GOOD. AS A NATION AND AS RESIDENTS OF THE SOUTHWEST, WE MUST ALL MOVE AHEAD TOGETHER.

VE Response 2-4

Your comment is noted and will be considered in the decision making process.

VE Response 2-5

Refer to Victorville Exhibit 2 Response 2-2 concerning this comment.

CALIFORNIA TRANSMISSION

TO TRANSMIT POWER FROM THE ALLEN-WARNER VALLEY ENERGY SYSTEM TO EDISON AND THE PACIFIC GAS AND ELECTRIC COMPANY, CONSTRUCTION OF NEW TRANSMISSION LINES IS NECESSARY. PRESENTLY THERE ARE NO TRANSMISSION CONNECTIONS BETWEEN CALIFORNIA AND NEVADA THAT ARE CAPABLE OF RELIABLY AND CONTINUOUSLY TRANSMITTING THE CALIFORNIA PORTION OF THE GENERATION FROM THE ALLEN-WARNER VALLEY ENERGY SYSTEM.

THE PROPOSED WESTERN TRANSMISSION SYSTEM WILL DELIVER POWER FROM THE ALLEN-WARNER VALLEY ENERGY SYSTEM VIA TWO NEW 500,000 VOLT LINES CONSTRUCTED FROM ELDORADO SUBSTATION IN SOUTHERN NEVADA TO THE CALIFORNIA SYSTEM TIE-IN POINT 6 MILES WEST OF THE LUGO SUBSTATION NEAR VICTORVILLE IN SOUTHERN CALIFORNIA. FROM THERE, EXISTING HIGH VOLTAGE TRANSMISSION LINES WILL PROVIDE LINKS TO THE PACIFIC GAS AND ELECTRIC COMPANY TRANSMISSION SYSTEM.

THE TRANSMISSION LINES ARE PLANNED WITHIN OR ADJACENT TO EXISTING TRANSMISSION CORRIDORS WHEREVER FEASIBLE. IN CALIFORNIA, THE PREFERRED PLAN IS TO FOLLOW INTERSTATE HIGHWAY 15 AND AN EXISTING EDISON 138,000 VOLT TRANSMISSION LINE WHEREVER POSSIBLE TO AVOID FEDERALLY PROPOSED WILDERNESS STUDY AREAS AND TO MITIGATE ENVIRONMENTAL IMPACTS.

THE PREFERRED PLAN WAS THE RESULT OF OVER SIX MONTHS OF CONCENTRATED STUDIES WHICH INCLUDE ENVIRONMENTAL, SOCIOECONOMIC, ETHNOLOGICAL AND ENGINEERING INVESTIGATIONS.

THANK YOU FOR YOUR TIME AND FOR THE OPPORTUNITY TO PRESENT SOUTHERN CALIFORNIA EDISON'S COMMENTS ON A PROJECT THAT IS SO VITAL TO OUR ENERGY, ECONOMIC AND NATIONAL INTERESTS.

07/28/80

My name is James Grey Larkin, I am the Mayor of the City of St. George, Utah and I have lived in St. George all of my life. It is my pleasure to be here tonight representing the City in my official capacity as Mayor.

My association with city government began when I was appointed to the Planning Commission in 1969. I was elected to the St. George City Council in 1974 and became Mayor in 1978. During my 11 1/2 years in city government I have become aware of some very important factors. We live in the desert and to keep our economy stable and our city growing it is necessary for us to develop water and have a reliable source of electrical energy to supply our municipal power system.

St. George is a small community with a total population of approximately 14,000 to 15,000 people. We work very closely with the communities around us because things that effect the economy of one effect the economy of all. We have been fortunate in having an adequate supply of water and a good supply of electrical energy for many years. We are now to the point in growth where we must reach out and find other sources of supply of these two precious commodities.

In 1973, while I was still serving on the Planning Commission, the City of St. George contacted Nevada Power Company in an effort to secure an additional source of electrical energy. As a result of this contact we became one of the originators of what we now call the Allen-Warner Valley Energy System. The proposal was readily accepted by the City of St. George and the surrounding areas because it was a very viable means of taking water from the Virgin River and putting it to beneficial use in Washington County. By using part of the water in the generation of electrical energy we had a means of making funds available for the project, making electrical energy available to us, and exporting some of the electrical energy, helping to pay for the entire project. The power plant, known to us as the Warner Valley Power Plant, will make electrical energy available to the citizens of St. George for many years to come. The fact that

We are able to lay off our surplus generation to other participants in the project makes it possible for us to recall that surplus energy as we need it until such time as we will use all of our 125 megawatt allocation of power out of the Warner Valley Generating Station.

In addition to making water available for distribution by the Washington County Water Conservancy District and electrical energy available to the citizens of St. George, the Warner Valley Power Plant will more than double the existing tax base in Washington County. The project will create employment opportunities, keep some of our young people in the local area, and make more funds available to Washington County for developing roads, financing schools and doing many of the things that we are unable to do at the present time because of the lack of funds.

As I have reviewed the Allen-Warner Valley Energy System Environmental Impact Statement I have observed several things that are not quite as they should be. As Mayor of the City of St. George, I leave the technical part of this proposal to staff and consultants and request the BLM, in preparation of the final statement, include the changes proposed by the staff and consultants of the City of St. George. It is not my intention, at this time, to analyze the statement and make suggestions or recommendations as to the corrections that should be made before the draft is handed to the Secretary of the Interior for a decision.

As we have progressed in the preparation of this Environmental Impact Statement many questions have confronted us relative to the availability of water. What will happen to our economy? What will happen to our city? What will happen to the environment in which we live? I take comfort in the fact that there are laws which protect the environment, there are laws which protect the air quality in the area, there are laws which tell us what we can or cannot do to build an environmentally sound electrical generating unit. As Mayor of the City of St. George I am completely aware of the fact that we must conform to all laws and all requirements of governmental units, federal, state and county before this project can be started. I have been advised that there will be

Victorville Exhibit 3

James Grey Larkin, Mayor of St. George

VE Response 3-1

Refer to table 1 of Appendix 11 in the final EIS for revised population projections for St. George.

VE Response 3-2

BLM concurs with your assessment, as shown in the Tax Base and Employment and Income sections, Socioeconomics of Chapter 4 in the final EIS.

APPROXIMATELY 100 PERMITS REQUIRED FROM VARIOUS AGENCIES OF GOVERNMENT BEFORE WE CAN MAKE A CONSTRUCTION START.

WE BELIEVE THAT THERE ARE NO INSURMOUNTABLE OBSTACLES THAT PROHIBIT THE CONSTRUCTION OF THE ALLEN-WARNER VALLEY ENERGY SYSTEM. WE SEE NOTHING BUT GOOD FOR THE ECONOMY OF THIS AREA AND FOR THE PEOPLE WHO LIVE IN SOUTHWESTERN UTAH AND AT THE SAME TIME MAKE AVAILABLE TO OTHER WESTERN STATES A SOURCE OF NEEDED ELECTRICAL ENERGY FOR THEIR CITIZENS.

THERE WILL BE SOME WHO OBJECT TO EXPORTING ELECTRICAL ENERGY MADE BY USING UTAH WATER AND UTAH COAL. IT IS APPROPRIATE FOR ALL OF US TO REMEMBER THAT UTAH, LIKE OTHER WESTERN STATES, IS AN EXPORT STATE AND THE FACT THAT WE EXPORT ELECTRICAL ENERGY IS NO DIFFERENT FROM THE FACT THAT WE EXPORT COPPER, AGRICULTURAL PRODUCTS, PETROLEUM PRODUCTS OR ANY ONE OF A NUMBER OF THINGS THAT ARE SHIPPED OUT OF THE STATE OF UTAH. BY THE SAME TOKEN WE IMPORT FROM OUTSIDE OUR AREA JUST ABOUT EVERYTHING WE USE INCLUDING THE FRUITS, VEGETABLES AND OTHER COMMODITIES THAT COME INTO UTAH FROM THE CALIFORNIA AREA.

IT IS NOT MY PURPOSE IN BEING AT THIS MEETING TO GO INTO A LENGTHY EXHORTATION ABOUT THE PROPOSAL, ONLY TO STATE TO YOU THAT WE ARE DELIGHTED TO WORK COOPERATIVELY WITH THE CALIFORNIA UTILITIES AND THE NEVADA UTILITY IN BRINGING TO COMPLETION THE ALLEN-WARNER VALLEY ENERGY SYSTEM.

WE EXTEND AN INVITATION TO ALL OF YOU TO VISIT SOUTHERN UTAH AND SEE THE AREA WHERE THE PLANT IS PROPOSED TO BE LOCATED, THE RESERVOIR SITE, AND THE COAL MINE. WE EXTEND THIS INVITATION SO THAT YOU WILL BE FULLY AWARE OF THE CIRCUMSTANCES AND THE AREA. I APPRECIATE THE OPPORTUNITY OF MEETING WITH YOU TODAY AND LOOK FORWARD TO SEEING MANY OF YOU IN SOUTHERN UTAH AS THE ALLEN-WARNER VALLEY ENERGY PROJECT MOVES FORWARD.

Las Vegas Public Hearing

Speaker

1. John Arlidge*, Nevada Power Company
2. Tim Carlson, Nevada Development Authority
3. Rudger M. McArthur*, Speaking on behalf of Mayor James Grey Larkin, St. George, Utah
4. Mel Exber*, Nevada Resort Association
5. Jim Sterling, Mojave County Board of Supervisors
6. Michael Naylor, Clark County Health District
7. Michael Ostanik*, Speaking on behalf of Preston Tom, Moapa Indian Reservation
8. Jeff van Ee
9. J. G. Tryon
10. Paul Thompson
11. Gerald Jones
12. Scott Page, Sierra Club
13. J. C. Denny, Speaking on behalf of Bob Broadbent, Clark County Sanitation District
14. Gerald Jones
15. Bill Hernstadt

1. John Arlidge, Las Vegas Testimony

LVT Comment 1-1

Ultimately, through recapture, 100 percent of the energy in the Allen station will be used in southern Nevada. The recapture provisions associated with the Allen station will provide for Nevada Power to recapture additional power over its original 8 percent entitlement, beginning 1999.

Cost of power on recapture will be based on generation constructed with dollars spent in 1980. A very definite benefit to our customers.

Further benefit will be derived by our community through the purchase of sewage effluent from the Las Vegas Wash area. The purchase of sewage effluent should reduce the burden of costs to the citizens of the modern sewage facilities now under construction in the area.

Also, as pointed out in your Environmental Impact Statement, the increased tax base could be extremely beneficial, especially to -- and in view of the low level of incremental impacts on existing services that would be generated by the project.

Development of the Energy System will have little or no adverse impact on the Las Vegas Basin area. Planning and community coordination by our company has mitigated to maximum extent possible any adverse socioeconomic and aesthetic impacts anticipated by the development of the project.

LVT Response 1-1

Your comments are noted and will be considered in the decision making process.

For the remainder of the John Arlidge Las Vegas Testimony refer to Victorville Exhibit 1.

2. Tim Carlson, Las Vegas Testimony

LVT Comment 2-1

The immediate need for the 2,000 megawatt Harry Allen powerplant is exemplified by the power consumption record set last Friday at the Nevada Power Company. A power record of 1,418 megawatts, 55 megawatts below the net generating capabilities of the utility, and 32 megawatts above the year's projected demand.

To put this figure in the better perspective, one should look at historical and projected demographics of the southern Nevada area. /

In 1970, some two thousand seven hundred and -- 273,000 persons were counted by the U.S. Census Bureau as residents of the area.

In 1980, that figure already leaped to approximately 450,000, or an increase of 64 percent.

By the year 2000, growth forecasts put southern Nevada's population around one million. For an increase of -- over 1980 -- of a hundred and twenty-two percent.

Obviously, this large influx of people will need increasingly greater amounts of electrical power to carry on routine functions, both at home and at their places of work.

To deny these people's need by approving anything less than the applicant's proposal of the full 2,500 megawatt generating capacity, could severely restrict their personal and economic well-being, as well as the entire growth of the southern Nevada economy.

As a popular tourist-oriented destination, Las Vegas visitor figures have climbed steadily over the years, creating an ever-increasing power demand to satisfy the wants and expectations of our welcome non-residents.

Last year alone, more than 11 and a half million tourists visited Clark County, a 72 percent increase over the 1970 figure, generating over 4.4 billion dollars into the local economy.

With thousands of new hotel and motel rooms on the drawing boards and an expansion of McCarran International Airport to handle nearly 30 million passengers annually by the year 2000, it is easy to see the adverse impact of the local economy if limitations are placed on the Nevada Power Company's ability to generate enough electrical -- electricity during the next few decades.

Equally important is the need to supply enough power to industrial customers in the coming years, since southern Nevada is becoming more and more attractive to companies wanting to expand or relocate their operations in an attractive sunbelt city.

LVT Response 2-1

According to information received by BLM from NPC, the utility's capacity to meet peak demand is 1,573 MW. Thus the peak reached by NPC on July 25, 1980 was 155 MW below their capacity.

As to the need for power, refer to the revised Purpose and Need of Proposed Project section in Chapter 1 of the final EIS.

LVT Comment 2-2

In considering the necessity of constructing powerplants capable of producing 2,500 megawatts, serious thought should be given to the socioeconomic impact of the MX missile project, which may very well locate its main operation at Coyote Springs/Kane Springs, some fifty miles northeast of the Las Vegas area.

This one project alone could result in drawing to the Las Vegas area well over a hundred thousand new residents during the next decade, not to mention new manufacturing, distribution, and service industries necessary for the construction and eventual operation of the MX missile System.

The Authority already is working with four major contractors involved in the project which would be large power users, provided they decide to locate new operations in southern Nevada. And one point, provided that there is sufficient power in the future.

It should be readily apparent that with the natural growth of the local population, coupled with the anticipated growth, through the MX missile project, much greater electrical generating capacity is desperately needed in the coming years to sustain and enhance the success of economic and industrial growth in southern Nevada without the threat of power shortages.

Approval of the applicant's proposal would not only insure this goal of satisfactorily meeting the current projected needs of the Nevada Power customers, but also would negate the need for future time-consuming and cost-consuming procedures involved in the reviewing, permitting, and construction of an alternative plant, which eventually would be needed to supplement anything less than the proposed 2,500 megawatt project.

LVT Response 2-2

The locating of the MX system near Las Vegas would have a socioeconomic impact on the region. Therefore, a project-specific EIS is being prepared by the U.S. Air Force. All possible and probable impacts of basing this system in Nevada and Utah should be included in that EIS, including consideration of related electrical power needs. The Allen-Warner Valley energy system has not been proposed for, nor power allocated to the MX system. Power allocation among the AWV participants is explained in Chapter 1 of the final EIS.

3. Rudger M. McArthur, Las Vegas Testimony

Refer to Victorville Exhibit 3.

4. Max Exber, Las Vegas Testimony

Refer to Las Vegas Exhibit 1.

5. Jim Sterling, Las Vegas Testimony

LVT Comment 5-1

But looking through the Impact Study, for some reason or another, they kind of forgot Arizona. But we are there. We're on the other side of the border down below the crack, or whatever you want to say.

LVT Response 5-1

Arizona is referred to infrequently in the EIS because there would be no Arizona utilities participating in the project, and no powerplant sites are proposed in Arizona in the AWV energy system.

Impacts to Arizona would result primarily from the transportation of coal by truck from the Alton coal lease area should Alternative 3 be chosen. Refer to the Coal Transport System section under Alternative 3 in Chapter 2 and the Land Use, Land Use Plans and Controls section under Alternative 3 in Chapter 4 of the final EIS for a discussion of the potential impacts.

LVT Comment 5-2

The Mojave County Board of Supervisors has endorsed this project wholeheartedly since the beginning. We were informed about it and the people have kept us well informed on it, on the project.

We will just go on record to say that with the need of coal power today, for our energy source, we have to use it. We need it. And we hope everybody is 100 percent behind this project, like the people in Mojave County that will not benefit from this at all.

LVT Response 5-2

Your comments will be considered in the decision making process.

6. Michael Naylor, Las Vegas Testimony

Refer to the response to Letter 5 for a discussion of comments presented in this testimony.

7. Michael Ostanik, Las Vegas Testimony

Refer to Las Vegas Exhibit 2.

8. Jeff van Ee, Las Vegas Testimony

LVT Comment 8-1

My name is Jeff van Ee. I am an electrical engineer who's lived in this community for eight years. And I've watched it grow and I've benefitted in some of the things that are associated with its growth.

I certainly am in favor of this community having an abundant supply of electricity to continue growing in the future.

But I think one thing that's been lost in the testimony tonight, and I think one thing that really hasn't been emphasized as it should in the draft EIS, is the potential for energy conservation.

The Las Vegas community has one of the highest per capita consumption rates of electricity in the nation.

And it's been mentioned earlier tonight that California has been our close neighbor and they've worked with us to bring us money and give us benefits and things like this.

One thing that I think California is saying to us is that we can reduce our consumption rate of electricity. And they are in the process of doing that right now.

The Pacific Gas and Electric Company and the Arkansas Power and Light Company announced this spring that they will provide no-interest loans to those people that would like to conserve electricity.

They will send in an auditor to look at a person's house, recommend that the person install weather stripping, storm windows, further insulation, things like this.

I would like to see that emphasized more in this community.

Nevada Power has taken steps to reduce the conservation -- I'm sorry -- reduce the power that people use, but I don't feel that it's as effective as the measures that are being imposed in California right now.

And I think before this community gets involved in building a large plant with the financing of that plant being paid for by present consumers of electricity, I think the utility here should work with the consumers to try to reduce their monthly power bill through conservation.

Again, I emphasize the no-interest loans which many utilities are looking at as one way to do that.

Another significant event, I think, is that the California legislature appears to be about ready to pass a bill that will mandate energy conservation in existing homes in California. And, of course, much of the electricity from the Allen-Warner Valley System will go to California.

I think that this potential passage of this bill should be looked at. It's estimated that AB3046 would produce a 30 percent savings in energy use in the residential sector.

And, again, I think if the politicians in this state and the utility company get behind the idea of upgrading the insulation in the homes in Las Vegas, not only would the utility benefit, business would benefit, but, more importantly, your average home owner would benefit with reduced bills.

LVT Response 8-1

Refer to Alternative Electrical Energy Sources section in Chapter 2 and the Development of Alternative Energy Sources section in Chapter 4 of the final EIS for a discussion concerning these comments.

LVT Comment 8-2

There's been some talk about the jobs that constructing the Allen-Warner Valley plant would bring. Again, I would like to emphasize that there would be more jobs in upgrading existing houses than there would be in constructing the Allen-Warner through conservation.

LVT Response 8-2

Refer to the Socioeconomics section under Alternative 5 of Chapter 4 in the final EIS for a discussion of this concern.

LVT Comment 8-3

One question I have -- well, a few questions that I have, is why the continued phase build up of the Reid Gardner plant was excluded in the EIS.

Looking in the appendix, it seemed like that option was viable in many cases and, yet, for some reason, it wasn't considered.

I realize the question of tax utility rate structure, getting into the issue is somewhat complicated, but it would be nice to provide in the final EIS a more definitive statement on why that was not looked at or examined in more detail.

LVT Response 8-3

The Reid Gardner powerplant is currently being expanded with an additional 250-MW generating unit that will bring it up to 550 MW of total net generating capacity. This is the greatest size to which it could be built and still meet air quality standards. The Reid Gardner powerplant and the

cumulative effects to air quality are discussed in the Air Quality section under Chapter 4 of the final EIS.

LVT Comment 8-4

It seems to me that one thing that is lacking in the draft Environmental Impact Statement is, again, the analysis of the energy use throughout the region. And I understand that what people are really waiting for is to see what the California Public Utilities Commission says. How much energy does California need?

But I think with the talk of a powerplant in Ely, which was mentioned in the EIS, with a powerplant in the California desert, with those kind of activities, it would be nice to see how -- a little more definitively, how the Allen-Warner Valley System fits into the whole regional energy mix.

LVT Response 8-4

Discussions concerning the purpose of AWV in the energy mix of the participating utilities are included in the Purpose and Need of Proposed Project and the Interrelated Projects sections in Chapter 1 of the final EIS.

LVT Comment 8-5

It was mentioned -- some mention was made of the impact that the Warner Valley powerplant might have on Zion National Park. And the focus of the concern seems to be on the plume itself, at the moment. But I would like to emphasize that a powerplant plume can disperse in an area over a period of days before the next air mass comes through and cleans it out.

And, I think, this long-term benefit, although it's hard to model, it's hard to predict what it should be, I think it should be examined to see what the long-term impact of the Warner Valley powerplant operating in that area would have on the area that does include Zion National Park.

LVT Response 8-5

Long-term (annual) concentrations would be well within Class I standards. The primary concern would be short-term effects during stagnation episodes which could lead to visibility deterioration or possible Class I violations. Long-term effects are very difficult to measure, but it appears that no long-term adverse effects would occur.

LVT Comment 8-6

One other thing that I think should be considered, it should be made note of, is that the solar energy is not being emphasized in Las Vegas, and many people would laugh at such a thing, but it's very interesting to see that some California utilities, again, are taking the lead and they have recently signed an agreement with Westinghouse Electric Company to produce photovoltaic cells and they expect by the end of the 1980's to have the cost of solar power down to 60 cents per watt, via this process.

And I might also mention that the Federal government is trying to force the cost of solar power down to the 50-cent-per-watt level by 19 -- by the late 1980's.

So even though it may not be that viable at this time, I think in the late 1980's, when people in Nevada -- and Nevada having an abundant supply of

sunshine -- when people are looking for electricity, it might be worthwhile to consider that source.

LVT Response 8-6

Refer to the Existing Legislation and Incentives Favoring Conservation and the Development of Alternative Resources sections in Chapter 3, and the Impacts of Major Concern section in Chapter 4 of the final EIS for a discussion of your comments.

9. J. G. Tyron, Las Vegas Testimony

LVT Comment 9-1

I believe that Alternative 5, as sketched in the draft EIS is technically possible, but must state the opinion that it is economically and politically impossible. And not an alternative.

It certainly is desirable that we make substantial reductions in per capita energy demand. It certainly is desirable that we go on with construction of solar sources.

But we just cannot expect that conservation and solar will replace this project.

Concerning conservation, it would appear to me that the kind of reductions that would actually make it possible to replace this project would have to have the strongest sort of incentives behind them. For example, that they would have to have mandatory installation of all residences by law. For example, they would have to have such incentives as a mandatory 20 percent reduction in the power drawn by large buildings, such as hotels. This is a matter for the legislature. I do not believe that it is politically possible to accomplish it. Again, the sort of incentive that might accomplish these savings would be a doubling or tripling of energy rates of what consumers pay for energy. To advocate Alternative 5, it seems to me, is to advocate such incentives as I have sketched. I do not believe that these are appropriate.

LVT Response 9-1

For the implementation of Alternative 5 to be possible, a switch in priorities and attitudes of individuals and local and State governments would be required. BLM acknowledges that implementation of that alternative would be beyond the responsibility and authority of the Department of the Interior; however, it is included in the EIS to provide perspective on the overall energy situation related to the proposal. NEPA and the CEQ regulations require that EISs include alternatives even though they may be outside of the lead agencies' jurisdiction to implement. In the decision making process, BLM can lend support to such agencies as CPUC in the sense that any rights-of-ways issued should be consistent with an overall development program which may include conservation.

LVT Comment 9-2

Concerning solar technology -- and I am putting my professional efforts into solar technology and related fields -- I simply have to report that it isn't far enough along to replace this project in the 1999 and 2000 year scale.

The Barstow Project, for example, hopes to have spinning turbines in 1981. But that doesn't mean that we'll have a developed technology of -- suitable for something of the scale of the Allen-Warner.

Generally, it's possible to triple, or perhaps multiply by 10, the scale of a project in each generation. Okay.

The Barstow Project is a 10 megawatt project. That means to get up to the 2000 plus size of Allen-Warner will take at least three generations and perhaps more. A generation takes five years. So that we're talking about a time scale of, oh, 15 years or more before the technology suitable for the Allen-Warner Project might be ready.

And there are so many uncertainties in the development of any great engineering effort. One in the solar business is storage. We simply don't have in sight good storage schemes.

Now, the Allen-Warner project is a base load project. If we're going to build solar plants to substitute for it, we are going to have to have storage. This simply is not yet in the foreseeable planning.

Again, concerning the possibility of solar used in buildings. Solar can heat well. We can heat our buildings well with solar. It's more or less economically feasible.

But the great load in the Las Vegas area is cooling. And solar-powered cooling shows no signs of being economic in the time scale that we are talking about.

LVT Response 9-2

Direct solar energy sources would play a relatively small part of Alternative 5 should it be implemented in the 1985 to 2000 time frame (e.g., only 120 MW of capacity by the year 1991 for the California utilities). The principal use of solar energy would be in active and passive technology of space and water heating, lighting, etc.

10. Paul Thompson, Las Vegas Testimony

LVT Comment 10-1

For the past several years, I and many people I have seen from southern Nevada, Arizona, California, Utah, and across the nation, have participated as kayakers, canoers, and rafters, enjoying the wild, scenic, and free-flowing beauty of the Virgin River from the border of -- southern border of Zion National Park, for many miles to Mesquite, Nevada at the base of the lower gorge of the Virgin River.

I feel that the draft EIS has neglected the economic benefits derived from the attraction of this river.

We, as area residents, are concerned and realize that tourism is a viable part of our economy, of our well-being. And it is not unusual for rivers in this country to attract, annually, upwards of 100,000 paddlers to a river.

LVT Response 10-1

The Recreation and Aesthetics sections in Chapter 3 and under Alternatives 1 through 4 in Chapter 4 are revised to reflect your comments in the final EIS.

11. Gerald Jones, Las Vegas Testimony

LVT Comment 11-1

I really and truly believe that we need the energy. And I'd like to compliment Nevada Power Company for -- one, for the time and effort, and the tremendous amount of money that they've put into the project, and the fact that they realized 10, 15 years ago and have been working on it ever since.

And I think that they've tried to come along and do their best part, I think, to get it into action here.

Also, there's been a little comment on the opposite side and maybe we can just go ahead and insulate our houses heavier and forget about that. Everybody would, and that will handle the whole situation. But that's not going to help too much on light industry coming in here. And the light industry we do need. That's about the size of the story.

We do need the work out here. And I speak for most of the buildings trades. It would be a big boom to us and help us to stay in the area, whereas a lot of us are beginning to suffer to a degree where we are going to have to leave if we don't get some type of work that will be a help and supplement us here.

LVT Response 11-1

Your comments are noted and will be considered in the decision making process. Both the primary and secondary impacts on employment and income are addressed in Appendix 17 of the final EIS.

12. Scott Page, Las Vegas Testimony

LVT Comment 12-1

The Sierra Club, our local group, would like to go on record as supporting Alternative 5 laid out in the draft Environmental Statement.

I won't quote a lot of statistics, but I personally have read of some statistics that support that proposition that approximately half the power in the United States could be saved through conservation.

I believe that, as a general point -- I think the environmental trade-offs involved in constructing this system would far exceed the advantages.

LVT Response 12-1

Your comment is noted and will be considered in the decision making process.

LVT Comment 12-2

I don't believe that Nevada Power has successfully demonstrated the need for as much generating capacity as they are proposing.

LVT Response 12-2

The NPC electrical energy needs are verified by the Nevada Public Service Commission. Refer to the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS for more information on this matter.

LVT Comment 12-3

The direct threats from the development of the Alton coal field which, again, would fuel Allen-Warner Valley, include dust from mining operations which could pollute the area within the park, violating the Class 1 air quality standards.

Visibility in and near Bryce could be reduced as much as 60 percent.

Overlooks from the rim of the Paunsaugunt Plateau provides views both east and south which, in some cases, stretch as much as 180 miles. Some of the cleanest air in the nation, we are talking about.

Surface mining operations could constitute an industrial intrusion into the vistas from the southern part of the park. Mining equipment truck traffic, open pits, partially revegetated areas, and altered ground contours could clearly be seen in the park itself.

Even in areas where mining operations themselves could not be seen, dust plumes would be visible.

LVT Response 12-3

Refer to Letter Response 22-7.

LVT Comment 12-4

Blasting at the mine site could cause seismic waves in air pressure which would damage rock formations inside Bryce Canyon National Park.

LVT Response 12-4

Refer to Letter Response 21-1 concerning updated studies of blasting impacts on Bryce Canyon National Park.

LVT Comment 12-5

The use of non-native species to revegetate mine areas may result in the establishment of new species in Bryce Canyon National Park, which is bound to have some effect on our ecosystem.

LVT Response 12-5

Some species which are not native to the area currently occur in Bryce Canyon National Park. As stated in the Vegetation: Species of Concern section under Alternative 1 of Chapter 4 in the final EIS, the introduction of additional exotic species into the area could further alter the natural character of the park.

LVT Comment 12-6

The coal mine could disrupt the migration pattern of wildlife, such as mule deer, that freely move into the park from the winter range below.

LVT Response 12-6

The development of the Alton coal lease area would partially block a mule deer migration route. However, only 300 to 400 acre areas would be mined annually, and this would not significantly restrict mule deer migration from Bryce Canyon National Park to their winter range.

LVT Comment 12-7

If attempts to revegetate the Alton area fail, the view south from Bryce Canyon National Park could be permanently scarred by soil erosion, loss of vegetation, and blowing clouds of dust from the bare soil.

LVT Response 12-7

All precautionary measures to insure success of revegetation efforts would be taken. As discussed in the Vegetation section in Chapter 4 of the final EIS, proper seedbed preparation, fertilizers, and other necessary methods would be used in assuring successful revegetation.

LVT Comment 12-8

In addition to air quality threats posed to Bryce Canyon and Zion Canyon, surface mine operations at Alton -- and to Zion National Park -- by emissions from the Warner-Valley powerplant, present modeling tests for the Allen plant indicate existence of allowable sulphur dioxide increments and the annual nitrogen oxide standards for Las Vegas itself.

Las Vegas is presently designated as a non-attainment air quality area. And, therefore, further degradation of air quality won't be allowed in the Las Vegas valley.

LVT Response 12-8

As stated in the Air Quality section under Alternative 1 of Chapter 4 of the final EIS, Class II PSD standards for SO₂ may be violated in the vicinity of the proposed Harry Allen powerplant. However, the annual NO₂ standards would not be violated (table 4-4 in the final EIS). Las Vegas is in a nonattainment area for particulates, carbon monoxide, and ozone. Modeling studies have shown that the proposed Harry Allen powerplant would not contribute to any violation of the NAAQS for any pollutant in the Las Vegas nonattainment area.

LVT Comment 12-9

Additionally, the fish and wildlife suffers as water that is essential habitat for the survival of the endangered roundfin minnow and roundtail chub, both being on the endangered species list, could be jeopardized by changing the flow of the Virgin River.

LVT Response 12-9

The roundfin minnow is the only species officially listed as endangered in the Virgin River. The Virgin River roundtail chub has been proposed for listing, but information concerning this species is limited. According to the USFWS biological opinion, (Appendix 15 in the final EIS) the continued existence of the roundfin minnow would be jeopardized by development of the proposed water project.

LVT Comment 12-10

Both the U.S. General Accounting Office and the California Energy Commission must approve sites for new powerplants in California and have concluded that the growth rates for electrical demand projected by Pacific Gas & Electric and California Edison overstate the growth and demand which is likely to occur.

The claims are that California's demand for electricity will grow at only 1.8 percent over the -- a year over the next decade and not by 3.5 percent predicted by the utilities.

LVT Response 12-10

Refer to the updated discussion of the energy needs of the California utilities in the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS.

13. J. C. Denny, Las Vegas Testimony

LVT Comment 13-1

If I may continue, then, we, as a general rule, consistently support economic development within the county, particularly projects which have large, positive socioeconomic impacts, like the Allen project.

The creation of over 200 permanent employment opportunities, with direct earnings in excess of \$5 million each year, combined with tax revenues of \$11 million annually, must be considered as a positive impact on Clark County.

LVT Response 13-1

Your comments are noted and will be considered in the decision making process. Refer to the Purpose and Need of Proposed Project section in Chapter 1, and Impacts to Clark County and its Communities section under Socioeconomics, Alternative 1 in Chapter 4 of the final EIS for a discussion of your comments.

14. Gerald Jones, Las Vegas Testimony

LVT Comment 14-1

If they didn't use the water for the Warner System, then what would they do with it? Send it down to Lake Mead and put the ammonia in the lake?

So it's kind of interesting. Maybe the sun would bring it back out of the water and drop it on down, anyway.

That seems like not very viable to me.

LVT Response 14-1

Presently the effluent from the Las Vegas treatment plants is discharged into Las Vegas Wash.

15. Bill Hernstadt, Las Vegas Testimony

LVT Comment 15-1

I would point out that unless we want to hang out a no-growth sign in this community, that continuing sources of power are a requirement of life in this area.

We could not stand to live in a hundred and fourteen degree heat with rotating blackouts going two hours, if we were stretched beyond our capacity. And that is a potentially life-threatening situation, if it got to that point. And we do have to have reliable and adequate sources for all of our people here.

While this facility in this scheme does supply power to California for many years, and then recapture it after the year 2000, this allows economies of scale and financing our own power company here. While a fine company, it does not enjoy the credit rating of the large California companies. And by having that additional financial backing, would bring in the plan that 1990 or 1992, dollars at a scale that when we recapture it after the year 2000, we would then have the cost at the time that it was constructed, utilizing finances from other people, which is to our benefit.

So it isn't as though we have the Californians taking advantage of us. It's a two-way street. They are helping us during this period while they are doing their planning to come in with plants between the time when this plant goes into service and the time when we elect to recapture under the contract.

I know that a facility of this size is bound to have impacts. And I trust that the technical studies and the inputs you've gotten that you can -- develop it in such a way that the impacts, given the scale and size of the plant, can be minimized, that no one wants to hurt the environment. No one wants to endanger species of animals or anything else.

But human life must go on, and electricity is critical to our survival in the valley. And that is my reason for supporting it.

LVT Response 15-1

Refer to the discussion in Purpose and Need of Proposed Project section in Chapter 1 of the final EIS. Your views are noted and will be considered in the decision making process.

LVE①

STATEMENT OF POSITION
on
ALLEN-WARNER VALLEY ENERGY SYSTEM
by
NEVADA RESORT ASSOCIATION
July 29, 1980

Mr. Chairman:

My name is Mel Exber and I am the President of The Nevada Resort Association, a non-profit corporation which represents twenty-seven (27) of the major resort hotels and casinos in Southern Nevada.

At the outset, let me state that we in the Association appreciate the opportunity of appearing before you this evening to express our support for the ALLEN-WARNER VALLEY ENERGY SYSTEM.

We are aware, of course, that certain environmental groups have and will continue to register opposition to the project on the grounds that: (a) it will have an adverse impact on the environment and (b) that the project is not needed. We respectfully disagree.

The members of The Nevada Resort Association are not insensitive to environmental considerations. On the contrary, engaged as we are in tourism and gaming we have more than an academic interest in maintaining an attractive and healthful environment. After all, we are acutely aware that our customers expect it and, that being the case, we have no desire to jeopardize the hundreds of millions of dollars we have invested in facilities to serve them.

Accordingly, we are not here to criticize or minimize environmental concerns but to urge you to recommend a decision that recognizes the importance of balancing those concerns against other equally-important considerations.

We respectfully suggest that in order to make an informed judgment the decision makers must take notice of the fact that gaming and tourism is vitally important to the State of Nevada. It is our number one industry--contributing in excess of \$100 million in state gaming tax collections and providing direct employment for more than 100,000 of our citizens. In Southern Nevada alone, more than 60,000 are employed in hotel/motel gaming and recreational fields.

At a time when our nation is preoccupied with a lagging economy, it is significant to remember that ours is a labor-intensive industry that has demonstrated resistance to downturns in the economy. Equally significant is the fact that we provide employment for thousands of unskilled workers who otherwise would be among the economic disadvantaged.

Faced with projections of continued growth, we must prepare for the future if we are to create the jobs needed for our rapidly expanding population. California must do likewise. In that connection, I might observe that attempts have been made to downplay the importance of the Allen-Warner project to Nevada on the grounds that Nevada would be exporting most of the power to California. We specifically reject the attitude that argument reflects. We have no interest in adopting a "Balkan Psychology." To the contrary, the vast majority of

Nevadans recognize the contribution Californians have made and continue to make to our economy. Accordingly, we believe that while California will initially absorb a large percentage of the power generated, Nevada will benefit in two ways. First, by the economies of scale which could not otherwise be achieved by Nevada going it alone and, secondly, by playing a part in the maintenance of an expanding economy in our sister state which is our strongest and most dependable market.

Beyond that, the Allen-Warner project will assure us of power availability in the years ahead.

In conclusion, I would once again stress that of course reasonable environmental requirements should be met. In the final analysis, however, if it comes down to a situation where substantial compliance has been achieved, any doubts associated with minimal risks to the environment should be resolved in favor of proceeding with the project because of its importance to the economic well-being of our state, our country and its people.

Finally, I should like permission to file a copy of my prepared statement together with a copy of a resolution adopted by the Executive Committee of the Association on July 25, 1980. That resolution reads as follows:

Las Vegas Exhibit 1
Mel Exber, Nevada Resort Association

LVE Response 1-1

As stated in the final EIS, the NPC electrical energy needs are verified by the Nevada Public Service Commission. For a discussion of California power needs, refer to the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS.

LVE Response 1-2

Your views are noted and will be considered in the decision making process.

RESOLUTION

The following resolution was unanimously adopted by the Executive Committee of the Nevada Resort Association on July 25, 1980.

WHEREAS, The Allen-Warner Valley Project will provide for the growing power requirements of the States of California, Nevada and Utah; and,

WHEREAS, the project is designed to take advantage of economies of scale which will facilitate the most economic production of power for consumers; and,

WHEREAS, the utilization of coal in the generation of power is consistent with our efforts to lessen our dependence on foreign oil and therefore is in our national interest; and,

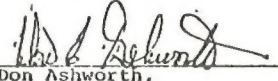
WHEREAS, reasonable environmental requirements can be met by the project; and,

WHEREAS, the development of this power resource is vitally important to the maintenance of full employment and the improvement of our productive capacity;

NOW, THEREFORE BE IT RESOLVED that The Nevada Resort Association hereby authorize its President to appear before the Bureau of Land Management to offer oral testimony in favor of the development of The Allen-Warner Valley Project; and

BE IT FURTHER RESOLVED that copies of this resolution be filed with said Committee.

IN WITNESS WHEREOF, I have caused this Resolution to be executed this 28th day of July, 1980.


Don Ashworth,
Secretary

LVE ②

MOAPA BAND OF PAIUTES

MOAPA RIVER INDIAN RESERVATION
BOX 56
MOAPA, NEVADA 89025
TELEPHONE (702) 865-2787

July 29, 1980

District Manager
Cedar City District
Bureau of Land Management
Post Office Box 724
Cedar City, UT 84720

Dear Sirs:

The Moapa Band of Paiutes, located in southern Nevada 65 miles northeast of Las Vegas, is in support of the Nevada Power Company request to construct the Allen-Warner Valley Energy System.

Fully aware of potential problems associated with this energy system, the Tribe has taken this position for the following reasons:

1. The need for additional energy resources to sustain our southern Nevada communities.
2. Limited alternatives for electrical energy production.
3. The Reid Gardner generating station, for the past 15 years, has been an immediate neighbor to the Tribe; a cooperative spirit between the power company and the Tribe has existed. When air pollution problems were identified at the Reid Gardner plant, Nevada Power took corrective measures.

We appreciate the opportunity to provide this testimony to you.

Sincerely,

Preston Tom

PRESTON TOM
Tribal Chairman

PT:rp

Las Vegas Exhibit 2

Preston Tom, Moapa Band of Paiutes

Your views are noted and will be considered in the decision making process.

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Kanab Public Hearing

SPEAKER

1. John Arlidge*, Nevada Power Company
2. John K. Little*
3. Caroline Lippincott*
4. Mayor James G. Larkin*, St. George, Utah
5. Rudger McArthur*, Speaking on Behalf of G. Murray Webb, Washington
County Commission
6. Steve Mueller
7. Delynn Barton, State Bank of Southern Utah
8. Pat Heidenrich*, SOURCE
9. Claude M. Glazier, City of Kanab
10. Steve Schwarzbach
11. Merle Adams
12. John Ferrell, Utah International, Inc.
13. Jane Whalen, Southwest Resource Council
14. Scott Thorley
15. Donald A. Harris
16. Gordon Anderson
17. Rudger McArthur
18. John K. Little

1. John Arlidge, Kanab Testimony

Refer to Victorville Exhibit 1.

2. John K. Little, Kanab Testimony

Refer to Kanab Exhibit 1.

3. Caroline Lippincott, Kanab Testimony

Refer to Kanab Exhibit 2.

4. James G. Larkin, Kanab Testimony

Refer to Victorville Exhibit 3.

5. Rudger McArthur, Kanab Testimony

Refer to Letter 61, Responses 61-1, 61-3, and 61-4.

6. Steve Mueller, Kanab Testimony

Refer to the responses to Letter 51 concerning the points addressed in this testimony.

7. Delynn Barton, Kanab Testimony

KT Comment 7-1

As I reviewed the environmental impact statement, there are relatively few pages of fairly meaningless verbiage dealing with the socioeconomic capabilities of the area and the reasons why the population and economic strength couldn't be absorbed. The EIS didn't take into account the resilient nature and inbred determination to overcome such problems as they arise of the residents of our area. I understand now from Dr. Little and his associates they are making a socioeconomic study. Hopefully, some of these capabilities will come to light. Already the towns and cities of the area are making improvements necessary for growth out in their areas, placing a new water system. Glendale has finished a new water system; Orderville and Glendale conjointly are placing a new sewer system into use presently and planning additional water facilities. Kanab, as I understand it, has been improving water facilities and is presently planning additional sewage facilities. Zoning and master planning is presently being done in the communities in preparation for anticipated growth. We, as a nation, need the energy buried in our area. Kane County needs the economic base and growth and development that this development will bring. There are problems, but they aren't problems that can't be solved, and that is our challenge now.

KT Response 7-1

The study cited is included in the draft Southern Utah Petition Evaluation Document (USD, OSM, 1980). Refer to Appendix 11 of the final EIS for a discussion about sewage and water systems.

8. Pat Heidenreich, Kanab Testimony

Refer to Kanab Exhibit 3.

9. Claude M. Glazier, Kanab Testimony

KT Comment 9-1

On several occasions, the city council of Kanab in discussing this project has favored the use of coal from the Alton coal field for a powerplant. First, we favor that the plant be at the coal site. We do not feel that it would, in any way, hurt the scenery from Bryce Canyon. If it is not allowed to be put at the coal site, the plant, we then would favor that the Alton coal be used and transported to another area. We are on the record at the present time and must continue to be on the record as opposing the use of any water from Kane County to move the coal to another area.

However, we feel that the coal has been put in this area for our use, and we should use it at this time to relieve the energy crisis that is upon us at this time. We would like to see the development at the coal sites, but if this can't be that way, we again say that we would favor the use of the coal to be transported by rail or truck, but not using Kane County water to remove the coal.

KT Response 9-1

The concept of locating a powerplant at the Alton coal lease area was considered during the initial formulation of alternatives, but was rejected on the basis that it was not environmentally preferable to the applicants' proposal. It was not specific enough to permit an in-depth analysis (see Appendix 2 of the final EIS).

The transportation of Alton coal to the Warner Valley and Harry Allen powerplants by means other than coal slurry is presented in the Alternative 3 scenario in the final EIS.

10. Steve Schwarzbach, Kanab Testimony

KT Comment 10-1

In last Monday's Los Angeles Times, there was an article on the front page that referred to the Warner Valley energy system. In this article there was some data from Southern California Edison, and their data was in support of the coal-powered plant that they plan to build in California. Of course, California won't let them do that, even though they don't have quite this many Class I areas as in Utah, they don't want a coal-powered plant. They would much rather have a coal-powered plant here in Utah and export the pollution and import the power. At any rate, the question of need. Southern California Edison, in their data supporting the coal-powered plant, which was not approved -- their data says that in current -- there is a current overcapacity of 10,000,000 tons a year by western suppliers of coal. Their data also showed that by 1988 there would be 150,000,000 tons that would be available from existing and currently planned mines besides Alton. Alton is one of the least needed and the least efficient components of the Warner Valley energy system.

There was also an article that appeared July 17 in the Garfield County News. In this article Governor Matheson was quoted -- paraphrased, wasn't quoted, and in that article Governor Matheson was paraphrased as saying that last year central Utah coal production has not sold. They still got it. They have a stock pile of it, they can't sell it. They are needing to open up markets for that coal. That is why Governor Matheson has been working with the Department of Interior and other western governors to open up markets in Taiwan, Japan, and Korea.

We hear a lot of talk about energy independence and self sufficiencies. We also hear a lot of talk about taking coal and sending it abroad. The question of need also arises with the California Public Utilities Commission and the California Energy Commission studies that are not quite completed yet, but they indicate preliminary indications are that this energy will not be needed. This is pretty clear from Alternative 5.

KT Response 10-1

Your comments are noted and will be considered in the decision making process. Refer to the Coal Resources Quality and Availability section in Chapter 3 of the final EIS for a discussion of this comment.

KT Comment 10-2

What I would like to see in the final impact statement as regard to Alternative 5 would be a dollar comparison between Alternative 5 and 4. Also, a need for energy comparison between Alternative 5. There are not energy comparisons between 1 through 4 and the full line system of the Warner Valley and Harry Allen coal field. This system was found to be among the least sufficient at 21 and something percent. That means for every five units of coal that are mined, we get only one unit of energy. So we get four units of wasted heat. We should, I think, in the final impact statement, BLM must come up with a preferred alternative. I think their preferred alternative should be based, in a large part, on energy efficiency. This is why I think that energy efficiency of Alternative 5 should be included as well as a dollar cost.

KT Response 10-2

Because the analysis of Alternative 5 does not include specific projects, it is not possible to conduct an in-depth energy efficiency analysis.

A dollar comparison of the alternatives is not warranted according to CEQ regulations for implementing NEPA. Several cost-benefit analyses have been conducted by other agencies in the process of analyzing the AWV project (CPUC, Environmental Defense Fund, etc.). Information from these studies is included in the final EIS.

KT Comment 10-3

Now, I'd like to speak as a summer resident of Utah to the suitability of the mine. Last year in St. George I was at the hearings. At that time it was mentioned by one participant in the hearing, they would like to see in the draft statement details on the effects of acid rain. From what I have been able to discern from the draft, it has been mentioned, but no significant studies have been done; there is no data. It is all supposition that there would be no significant effect, but there have been no studies of potential localization of effects. Little I realize it would be tall steps,

it is hard for me to imagine that 10 tons of sulfur dioxide into the air a day will not have a significant effect when there is particulate matter that would also be coming out of the Warner Valley plant.

So what I am saying, I would like to see in the impact statement, the effects of acid rain, not only upon watershed, not only upon the geologic formations, quality of drinking water, but also upon agriculture. Traditional agriculture in southern Utah is the basic economic peg that holds up everything else. At this time, that may change; that peg may be replaced by coal, but at this time, agriculture is the main peg, as well as tourism and the effects upon agriculture, implemental effects should be documented. We should know before we make the decision, we should have a very good idea, not just a generalization.

KT Response 10-3

Refer to Letter Response 51-1 for a discussion of this comment.

KT Comment 10-4

Also, we should know the effects on tourism because fishing is a very important reason why people come to the high plateau ranch. Probably half the people in this room like to go fishing in the high plateaus of this country and southern Utah. The inability of those streams to sustain a fish population would be devastating not only to tourism but to the ecosystem as well.

KT Response 10-4

A discussion on the impacts to tourism is included in the Recreation and Aesthetics section under Alternative 1 of Chapter 4 in the final EIS to reflect your concern. However, there is no evidence that emissions from the proposed project would affect recreational fishing.

KT Comment 10-5

I would like to endorse, as a preferred alternative, Alternative 5. As a California consumer, I would like to see my State move in that direction. I feel that large scale electrification projects, which disconnect people from a source of energy, causes gross wastefulness. That is what California is doing with their energy, gross wastefulness.

If Alternative 5 is not selected, every other alternative appears immensely more attractive than one. In terms of energy efficiency, in terms of local agriculture, in terms of effects upon local ecosystems, tourism, etc. Essentially, what is really at stake, though, is the long term health, beauty, and productivity of southern Utah land.

KT Response 10-5

Your comments are noted and will be considered in the decision making process.

KT Comment 10-6

The impact statement fails to deal with, adequately, reclamation of the land that it is going to take out, literally take out, and this, I think, needs a great deal of detail, and I did not see that detail in the report. I would be very interested to see how they were going to accomplish this miracle of omelet to egg in reclaiming the land.

KT Response 10-6

Refer to Las Vegas Testimony Response 12-7.

11. Merle Adams, Kanab Testimony

KT Comment 11-1

I want to see it [private enterprise] prosper and do something. If we have so much of this government stuff as Ralph Nader thinks, you can't get around it.

KT Response 11-1

Your comments are noted and will be considered in the decision making process.

12. John Ferrell, Kanab Testimony

KT Comment 12-1

There are allegations currently under analysis by Utah International, as well as the agencies that are involved with the petition. The aforementioned reclamation plan must be approved by the Office of Surface Mining before any development of the Alton coal field can commence. In light of these facts, we feel that the analysis of the environmental impacts of mining the Alton coal field presented in the document are somewhat premature.

KT Response 12-1

Section 1502.4 of the CEQ regulations requires that all related components of a proposal be identified and examined in a single document. This same Section and Section 1502.20 encourage summarizing other documents to reduce repetition.

KT Comment 12-2

The Draft primarily addresses the impact of surface mining at the Alton coalfield and visibility at Bryce Canyon National Park. Surface mining produces, typically, dust from ground disturbances and from coal processing operations. Recent regulations promulgated by the Clean Air Act specify the types of controls that must be applied to surface mining operations. Utah International will control dust to the maximum extent practicable meeting or exceeding all the control requirements. The Alton mine would also be subject to the most stringent air quality requirements embodied in the Clean Air Act. Those being the requirements to protect visibility in or near national parks. Essentially, the Clean Air Act requires that a visitor from Yovimpa Point in Bryce Canyon, looking out over the eastern end of the mine lease area, would not see any accumulation of air-borne dust significantly degrading the view. Utah International has been conducting modeling studies to determine effects of the mine on visibility from Bryce Canyon. A group of Federal agencies is also conducting independent analysis. Results of these reports will be provided to the Office of Surface Mining for review in connection with the unsuitability petition.

KT Response 12-2

Refer to Letter Response 22-7 concerning this comment.

KT Comment 12-3

The Draft EIS also discusses impacts of pumping water from the Navajo Sandstone Aquifer. Reduction of water available in the Navajo Aquifer is based on two arguments. First, that water withdrawn from the slurry lines would lower water levels and down grade into wells and streams. Second, pumpage of mine pit in-flow waters into surface streams would deplete recharge rates to below the levels or maintenance in down grade supplies. Neither argument is supported by any factual evidence. In fact, preliminary studies related to draw effects associated with slurry line withdrawals estimated about 6,000 gallons per minute. This indicates at a distance of 10 miles from the well, the result in water table lowering would not exceed 1 foot. While these findings will be confirmed by actual on-site well pumping tests, we submit significant withdrawals are unlikely, especially in light of the fact that all major water wells and streams tapping this particular formation are well outside of this ten mile radius. The contention of this discharge mine inflow waters will reduce the lawful rate at which alluvial ground waters recharge the Navajo Aquifer is unsupported. Recent well data from the project site show that the top of the Navajo Sandstone Aquifer is located at a depth of 900 feet below the ground surface. Yet, no water is observed in this formation until the 1,200 foot depth. This absence of water in the upper 300 feet of this aquifer indicates this aquifer receives from the overline alluvium. Thus, pumpage of the alluvial waters will have no effect on the Navajo Aquifer.

KT Response 12-3

Refer to the Groundwater Pumping for Coal Slurry section under Alternative 1 in Chapter 4 of the final EIS for updated information on this matter.

KT Comment 12-4

Regarding the socioeconomic issue raised in the Draft, we recognize the need to work close with the communities which will grow as a result of the Alton project. We strongly disagree with the conclusion that "Kane County communities would experience extreme problems in controlling growth and providing services for the projected population." Utah International has developed large mine operations in areas with small populations in the past. Everything we do with respect to water in this state must be cleared by the State Water Engineer. They must be continually appraised of what we are doing. In each case, their actions have been carefully well-coordinated with local people. The Alton coal project will bring jobs and development to this area.

KT Response 12-4

Projections for the Kane County area indicate that significant impacts would occur. See the Socioeconomics sections in Chapter 4 of the final EIS.

13. Jane Whalen, Kanab Testimony

KT Comment 13-1

The EIS should be in compliance with the National Environmental Policy Act to carry out its obligations to insure the federal decision makers to carefully consider alternatives to proposals for resource exploration and to require that these obligations be met to the fullest extent possible. I believe the legal requirements will demand that Utah International analyze thoroughly the deep hydrology in Kane County. We would like to address these major questions concerning the availability of water for the coal slurry.

For example, the USGS report of 1975, Simulation of Ground Water Withdrawals in the Navaho Sandstone near Alton, states after 35 years of pumping 6,000 gallons per minute, the lowering of the water table would be less than one foot ten miles away.

Mr. Ferrell, although there is a new report by Robert Cordova, May 15, 1980, done by the USGS Water Resources for the State of Utah from the water conditions in the upper Virgin River and Kanab Creek states there to be a hundred foot draw-down after four years' pumping 6,000 gallons per minute.

These direct contradictions have to be cleared up in the final EIS.

KT Response 13-1

Updated information on water resources is included in the final EIS. Refer to the Groundwater Pumping for Coal Slurry section under Alternative 1 in Chapter 4.

KT Comment 13-2

In the draft EIS well sites indicate that proposed Warner water development would be concentrated in one area, within a three-mile radius of Bald Knoll with 13 wells (page 2) although on file in the State Engineer's Office Salt Lake City, Utah International has filed applications in six different areas for ground water development for over 68 wells. This should also be listed in the final EIS.

KT Response 13-2

Your statement is interpreted to read "proposed coal slurry water development" instead of "Warner water development." As such, refer to the Ground water Pumping for Coal Slurry section under Alternative 1 of Chapter 4 and figure 4-8 in the final EIS for revised well site locations.

KT Comment 13-3

In a policy meeting held in Kane County Courthouse several years ago, a determination was made to withhold further action on the approval of new applications to appropriate water in the water drainage area, because they felt that all the water was already appropriated.

There are also a number of approved applications that have not been completely developed. That should also be in the EIS. Nobody could have a well, not even ranchers that have been there for four generations, although it seems the State Engineer was willing to give it to the mining companies. Just how will the State identify clear and beneficial use with anything other than to lose our coal, our water, our air, and our electricity? If total development of ground water occurs in six areas, we have to consider the potential cone of depression that will result from each of the proposed well fields.

For example, the EIS states Kanab Creek in the vicinity of Big Lake might be affected if the cone of depression extends nine miles from Bald Knoll. Ranchers have wells that are four and a half miles away from the Bald Knoll. With the Kanab City wells and Three Lakes Canyon to be affected the cone of depression would have to extend more than 12 miles. But the mining company has an application for oil developments in the area of the Three Lakes as well. So far the mining company doesn't have a well that would

produce. What are the guarantees when they can't find water at Bald Knoll? Which area will be next? We should be aware of these possibilities to develop these other oil fields and how they will affect existing water rights users. Also that the City of Kanab also taps five wells and in the spring in the upper sandstone. It is unlikely that the hydrology tests will be conclusive in the few months left until the decision can be made. It is only just the few ranchers.

KT Response 13-3

Refer to the Role of the Utah State Engineer section under Alternative 1 in Chapter 4 of the final EIS for a discussion of your comment.

KT Comment 13-4

St. George is receiving a benefit apparently to push construction of a speculative reservoir and to allow the project proponents an excuse to explore ground water for the coal slurry line to the Henry Allen in Las Vegas. Approximately ten times the amount of the generating capacity entitlement to St. George in the Warner Valley generating station will be available to Utah from Utah Power & Light. It is by no means certain that the provision of the power to the City of St. George by the proposed Warner Valley project will be needed by the city or the State.

KT Response 13-4

Refer to the updated Purpose and Need of Proposed Project section in Chapter 1 of the final EIS, which discusses the current and projected needs of the project.

KT Comment 13-5

There is enough coal in the west to make a choice. There is no compelling need to develop the Alton coal field inasmuch as there is an incredible amount of western coal available now. An unbelievable amount of coal will be available in the time of the project. Data submitted by Southern California Edison in support of its now postponed California coal power plant shows a current over capacity of ten million tons a year by western coal suppliers. By 1988 the figures show 105 million tons will be available from existing and planned mines. On July 15, 1980 trains by Consolidated Coal Company to strip mine coal in Southern Utah have been derailed. The problem is economic. No market has been developed for the mine's coal. Alton Coal has an extremely poor heat rate. A poor heat rate means that significantly more coal would have to be burned to produce an equivalent amount of electricity. The reason why Alton coal is the cheapest coal available for the power plants is because they get the transportation for free.

KT Response 13-5

Your comments on this matter are noted and will be considered in the decision making process.

KT Comment 13-6

What will be the effect on tourism has not been addressed in the EIS. Now one of the area's main sources of income is tourism with restaurants and motels all over St. George. What will be the effect of the brown haze when it sits on St. George, Zion, and Bryce?

Maybe not many of you have ever been out of the State of Utah but this area is unique to the world. We need to protect the best of what's left in America today. Tourism increased in both Zion and Bryce by more than 12 percent this year. This is a natural resource that we can have for our future.

KT Response 13-6

Refer to the Recreation and Aesthetics sections in Chapter 4 of the final EIS, which is revised to include tourism.

14. Scott Thorley, Kanab Testimony

KT Comment 14-1

Apparently, the word is that the developers of this project only seek to appropriate water for the 13 wells. However, the original application by Utah International was for 161 wells, which means they had effectively filed an application to appropriate on top of most existing water rights in this area.

The State Engineer has since requested on two different occasions that they reduce the amount they seek to appropriate, but the fact is as the evidence shows, that the Allen-Warner Valley project is a very thirsty entity.

KT Response 14-1

Refer to figure 4-8, titled "Pending Utah International Inc. Groundwater Applications Before the Utah Division of Water Rights", and the Role of the Utah State Engineer section under Alternative 1 of Chapter 4 in the final EIS for updated information on water appropriation.

KT Comment 14-2

Utah water law is reflected by a letter of the State Engineer to the United States Department of the Interior in which the area engineer remarked, "The approval of these applications will not be made if there is a known or even suspected interference possible," referring to existing water rights. The weight of evidence already in from test drilling and other surveys indicates that there will be substantial interference with presently existing water rights which are prior to any applications by UI.

KT Response 14-2

Your comment is noted and will be considered in the decision making process.

15. Donald A. Harris, Kanab Testimony

KT Comment 15-1

If it's there, let's utilize it. If we need it, fine. But let's not ship it out. Thank you.

KT Response 15-1

Your comment is noted and will be considered in the decision making process.

16. Gordon Anderson, Kanab Testimony

KT Comment 16-1

Let me just say that we support Alternative Number 5 that was in the draft, energy conservation and the development of alternative energy sources, for California especially seeing how 83 percent of that power is going to California.

If we implement Alternative 5, it's going to produce and displace 4,249 megawatts of electric power by 1991. That's enough power to serve a city of around four million people. Now, along those lines I want to emphasize we do not believe that the lives from conservation and energy alternatives will involve sacrifice, lifestyle changes or additional expense on the part of the energy consumer. Important energy savings are not those of voluntary restraint but rather those which can be achieved at no inconvenience to the public, and at no extra cost simply by redirecting investment away from fossil fuel and nuclear generation and towards alternatives including both conservation and development of renewable energy sources.

This alternative strategy would utilize the application of a variety of conservation programs and the development of alternative renewable energy resources such as solar, wind, small hydro, geothermal, biomass conversion technology, and co-generation to generate electric power from California. These energy sources are encouraged by official State policy due to their favorable environmental characteristics, their efficiency, their more stable costs and the fact that they are indigenous in the State of California.

So if we do implement Alternative Number 5, it would reduce oil consumption in this country by 43.5 million barrels of oil a year. That is certainly a much better way to go than Alternative Number 1, which we promise to oppose.

KT Response 16-1

Your comment is noted and will be considered in the decision making process.

KT Comment 16-2

Now the question was raised by the mayor of St. George that they need the power -- this was a very interesting point -- they need the power, therefore they are building a 500 megawatt power plant, enough to serve the energy needs of half a million people. Well, once again they were only allotted 125 megawatts, the rest of course was going to be coming from Nevada. But I don't agree that St. George needs a power plant this size because they need the power. They could derive the power either from IPP and we know from the EIS of this project that there is going to be a power line coming down from IPP to St. George. Also, Utah Power & Light has indicated that they would be more than willing to give St. George all the power they can need.

KT Response 16-2

Refer to the revised Purpose and Need of Proposed Project section in Chapter 1 of the final EIS for an updated discussion of your comment.

KT Comment 16-3

-- Well -- now also the claim was raised that St. George needs water from the Warner Valley plant, 55,000 acre foot reservoir. Warner Valley reservoir project we should recognize is a resurrection of the Dixie project from a Bureau of Reclamation multi-purpose water project brought up and discarded many years ago due to economic infeasibility. BLM has performed an independent assessment which we support that says the development of the Snow Canyon project was by all the water St. George was going to need in a lifetime of this place.

So, the Warner Valley reservoir is an example of the political maneuvering and historical actions that we've seen all come together can finally produce what we have in the Warner Valley project. Warner Valley Reservoir is nothing more than a political payoff from the State of Utah so that the coal from the Alton Hills, if they export from Utah, Utah must under law receive some reciprocal benefit, therefore we have a Warner Valley Reservoir. But the whole thing is crazy. The Warner Valley plant is a crazy idea. Why not just build one large powerplant from the Harry Allen side? Why do we have two powerplants? Once again only to fund the Warner Valley Reservoir so that Utah's coal from the Alton field could be exported out across the State lines and there would be reciprocal benefit coming back to the State. That's the only reason we have this Warner Valley Reservoir. But our independent cost estimates indicate that's an \$80 million reservoir project that the rate payers of California are going to pay.

KT Response 16-3

Your views on this matter will be considered in the decision making process.

KT Comment 16-4

Now let's talk about the Alton coal field. We believe that the Alton coal field should have been studied in its entirety within the EIS. Why is the mining plan to be submitted by Utah International not coming in until after the draft, until after the unsuitability petition itself may even be resolved?

KT Response 16-4

The OSM document concerning the Alton unsuitability petition (Southern Utah Petition Evaluation Document, USDI, OSM, 1980) is used in the analysis of impacts in the final AWW EIS. When a mining plan is submitted to OSM, a comprehensive environmental assessment will be prepared prior to approval of any mining activities.

17. Rudger McArthur, Kanab Testimony

Refer to the responses to Letter 86 concerning this testimony.

18. John K. Little, Kanab Testimony

KT Comment 18-1

The part -- first, Kane County speculates how you can develop water. We have been in, of course, observing the Navajo Sandstone and we would hope that a great deal of water would be available for it. We diverted waters from the run-off and put them out with pumps on the land. We notice an

observable increase in the flow stream but as far as for the data, the aquifer is closed on the west side because it is up, it is closed on the north side because the strata dips great depths to where there might be a greater appreciation, and it is closed on the south because it is under deep water, so it is the east side would be recaptured and used, but we find the water stable in the Navajo Sandstone for 4,200 to about 5,400 feet and that water in the Navajo just has an elevation of 6,100 feet and it would be very difficult for the water to get up the Navajo aquifer between Sevier Falls. It won't run up hill very good. Also, there is an excellent port of water in the petrified forest, which makes it impossible for the water to escape underground. It appears it is a aquifer, but I don't think it could be placed there for any prospective escape and the burden of proof is on the developers to supply that water.

Also, I have platted the water table and it appears Kanab Creek and the waters of Johnson Creek, the Johnson Lakes, and the other canyon and, also, a proponent at Bald Knoll, the water table is constant at 5,400 feet, which demonstrates that it would require a high, relatively high, conductivity rate, which is not characteristic of the stone of the Navajo aquifer, but it also has been demonstrated that there is a pumping test by the State Engineer at Johnson Creek area that the slow rate was in excess of 660 feet per day and this was due to the fact that it was conducted along the fault zone. Now, there is a fault zone that comes from Bald Knoll and on the geologic map and disappears under the alluvium of the part of Kanab Irrigation and presumed water is supplied through that fault. I think it is the obligation of the company to prove that that condition isn't so.

KT Response 18-1

Your views are noted and will be considered in the decision making process. Refer to the Ground Water Pumping for Coal Slurry section under Alternative 1 in Chapter 4 of the final EIS for a discussion of the comments presented in this testimony.

KE ①

EAST CANYON IRRIGATION CO.

P. O. Box 47
Kanab, Utah 84741
Ph. 644-2621

July 28, 1980

BUREAU OF LAND MANAGEMENT
CEDAR CITY DISTRICT OFFICE
P. O. Box 724
CEDAR CITY, UTAH 84720

Ref: ALLEN-- WARNER VALLEY ENERGY SYSTEM
ENVIRONMENTAL IMPACT STATEMENT

DEAR SIR:

The abovecaptioned document presents much of the most pertinent information in condensed and very useful form.

APPENDIX 14 (page A14-1) is deficient regarding the Colorado River Treaties, which are binding on the Federal Government and the signatory states including Utah. ARTICLE XV (a)

Subject to the provisions of the Colorado River Compact and of this Compact water of the Upper Colorado River System may be impounded and used for the generation of electrical power, but such impounding and use shall be subservient to the use and consumption of such water for agricultural purposes and shall not interfere with or prevent use for such dominant purposes.

(c) The provisions of this Compact shall not apply to or interfere with the right or power of any signatory State to regulate within its boundaries the appropriation, use and control of water, the consumptive use of which is apportioned and available to such State by this Compact."

The proposed source of water which is tributary to the Colorado River which is not to be consumed in its State of origin may not be available because of these provisions. If so, they should be deleted and excluded from this project.

Also the Final Draft should be up-dated to include the pertinent findings of a study by the United States Geological Survey, in cooperation with the Utah Department of Natural Resources entitled, "GROUNDWATER CONDITIONS IN THE UPPER VIRGIN RIVER AND KANAB CREEK BASINS AREA, UTAH, WITH EMPHASIS ON THE NAVAJO SANDSTONE" and any other important data that has or will be discovered. This study concludes (PP 91, 92) that the proposed water withdrawals will measurably reduce the flow of the springs and streams which supply the prior and primary vested rights of the area water users, for which they have no alternate source, to their irreparable harm, for which they have no adequate remedy at law. This study also finds that withdrawal of water in the proposed quantities will cause subsidence of the land surface and cause inflow of highly mineralized water thereby contaminating the aquifer to a point that the water would be unfit for human consumption or other useful purposes. Tests of the water from their well at Bald Knoll by the proponents proved that the water has stood in the aquifer for more than six million years proving that there is practically no leakage from or circulation through the aquifer. This proves that all significant recharge is to the alluvial

(2)

slopes and valleys and exposed members of the Navajo Sandstone in the neighborhood of the surface streams, springs and wetlands, and that the volume of effective recharge is very nearly equal to the consumption by these surface uses before drilling of wells into the aquifer. Taking of water from distant wells may not be felt for years, or even decades, but eventually the cone of depression of the well will extend to the springs and wells of the local users, ruining the aquifer by subsidence, chemical pollution, and reducing or stopping the production from the springs and wells. The longer the interference is in appearing the longer it will continue with the cone of depression of proponents wells taking the water of resident users with a "BLACK HOLE" like effect until the water lost by the residents equals the water taken by the proponents.

In the light of the aforementioned documents and disclosures the First Alternative*listed in the Allen-Warner Valley Environmental Impact Statement or any other proposal to extract and export water from the Navajo Sandstone Aquifer should be disapproved and rejected.

The Utah State Engineer declared in the Policy Hearing mentioned in Appendix 14 that when wells take water from an aquifer like the Navajo Sandstone the surface seeps, springs, streams and wetlands are taken and destroyed.

Kanab Citys wells destroyed Three-lakes Creek and reduced the flow of Kanab Creek. Wells into the Navajo hav substantially destroyed Johnson Creek. The once verdant fields which are dry and barren in this alltime record heavy rainfall period are unrefutable evidence. The Alton project and slurry lines will take more water than the average annual recharge to the Navajo, evidenced by the production therefrom. The approval of this project will make the land between the Severe and Fausnagaunt Faults uninhabitable, destroying the livelihood and property of the residents.

Rejection of the First Alternative*is the only adequate remedy.

John K. Little

For himself, as a member of Johnson Canyon Water Users Assn, a director of East Canyon Irrigation Co., and a stockholder of Kanab Irrigation Co.

*Both alternatives one and two should be rejected.

Kanab Exhibit 1
John K. Little

KE Response 1-1

A discussion of the Colorado River Compact and its relevance to the AWV project is contained in the Water Resources section in Chapter 3 of the final EIS.

KE Response 1-2

To reflect your comment, information from the Cordova report is included in the Groundwater Pumping for Coal Slurry section under Alternative 1 in Chapter 4 of the final EIS.

P.O. Box 924
Kanab, Ut 84741
July 30, 1980

District Manager, Cedar City District
Bureau of Land Management
P.O. Box 724, Cedar City, Ut 84720

Dear Sir:

Here are some comments regarding the Allen-Warner Valley Draft EIS.

Proposals 1 and 2 need to incorporate information about water contained in the report 20-524, US Geological Survey, by R.M. Cordova, and relevant material in the March 15, 1979, Hydrogeologic Study by S. Bryce Montgomery, of the Utah Division of Water Resources. Comprehensive analysis of the information needs to be included with environmental consequences and any mitigating measures fully addressed.

Proposal 1 and alternative 2 need to be rejected as viable considerations. The information already contained in the draft statement is more than conclusive in showing that existing and pending water rights, both surface and underground, will be adversely affected by the proposed mining and pumping of water for the slurry. In further support, the U.S.G.S. report finds:

In summary, the pumping of a well anywhere in the Navajo Sandstone in the Kanab Creek basin probably would cause some decline of water levels elsewhere in the aquifer and probably also in overlying and underlying aquifers in the basin. ..Furthermore, pumping of wells in any aquifer in the area can be expected to cause declines of water levels to some degree in other nearby wells in that aquifer and in overlying and underlying aquifers.....The springs and streams in Johnson Canyon and Kanab Creek Canyon are natural discharge boundaries, which would eventually be intercepted by the expanding cones of depression of wells in those canyons.....Based on available data, most of the base flow in the lower reaches of Kanab and Johnson Canyon comes from the Navajo Sandstone; consequently, increased withdrawals of water by wells in the Navajo would, in time, measurably reduce the flow of those streams.....Increased withdrawals from the Navajo by wells could eventually create a large enough hydraulic gradient towards the pumped area to induce movement of the more highly mineralized water from the overlying and underlying rocks into the Navajo, thus deteriorating the chemical quality of water in the Navajo....Increased withdrawals of water from the Navajo Sandstone also would affect the chemical quality of streamflow, especially in Johnson Canyon and Kanab Creeks. ...As an increasing amount of water is pumped from wells in the Navajo (and thus diverted from the streams), the ratio of fresher Navajo water and more mineralized water from the older and younger formations in those streams will decrease. This will result in a net increase in the dissolved-solids concentration of the streams...."

Kanab Exhibit 2
Caroline Lippincott

KE Response 2-1

Your comment is noted and will be considered in the decision making process. To reflect your comment, an analysis of Cordova's report is included in the Groundwater Pumping for Coal Slurry section under Alternative 1 in Chapter 4 of the final EIS.

The Draft EIS' analyses are based on the assumption that Utah International Inc. will pump water from 6 to 13 wells within a three mile radius of Bald Knoll. Water applications on file with the Utah State Engineer and presently in good standing cover more than 100 wells in seven large areas covering the Kanab and Johnson Canyon drainage basin. Since these applications have not been withdrawn or amended, and Utah International has failed to submit a mining plan limiting the number of wells or their locations, the effects of pumping all of the wells applied for need to be evaluated.

All of the proposals need to be reevaluated in terms of the limitations and requirements of the Clean Air Act. Impacts not permitted by the Act need to be so identified, and the proposals which will result in illegal impacts need to be rejected.

Alternative 3, which proposes the trucking of coal from the Alton mine area to Warner Valley is inadequate in addressing the impact of such traffic. Effects of the heavy truck traffic on tourism, on towns, on ranch and cattle operations and other local businesses, on the maintenance and construction of roads and highways, and on traffic problems need to be investigated and addressed. Costs and tax implications should be included.

Greater consideration needs to be given to socioeconomic impacts, both short term and long range.

Altogether, the statement is a comprehensive and reasonable document. Those people who produced it are to be commended especially on including consideration of irreversible, irretrievable commitment of resources and the relationship between short term uses of the environment and the maintenance and enhancement of long term productivity. However, this area is deserving of even broader and more detailed consideration. The present trend of committing greater portions of water resources to power production and industry and loss to agriculture needs a very hard and serious look. The energy crisis may in retrospect seem a mild inconvenience compared to the mass human starvation which is a predictable certainty given the continuation of the present birthrate worldwide. Depletion of non-renewable accumulations of water (upon which the natural distribution system is dependent), and the permanent destruction of water shed would be irresponsible actions adversely affecting posterity. Decisions to take such actions would be neither rational nor moral. Recommendation of Alternative 5 as preferred will demonstrate priorities of responsibility and caring for present and future generations.

Sincerely,

Caroline Lippincott
Caroline Lippincott

KE Response 2-2

Figure 4-8, "Pending Utah International Inc. Ground Water Applications Before the Utah Division of Water Rights" is included in the final EIS to clarify questions concerning water applications. Application Number A 36044(21) is the only one presently under consideration by the Utah State Engineer.

KE Response 2-3

OSM is in the process of responding to the allegations of the petition of unsuitability (draft Southern Utah Petition Evaluations Document, USOI, OSM, 1980). OSM is mandated to insure full compliance of the Surface Mining Control and Reclamation Act of 1977. A mining plan would be subject to the requirements of the Act.

KE Response 2-4

Significant impacts resulting from the transportation of coal by truck from Alton are discussed in the Coal Transportation section under Alternative 3 of Chapter 4 in the final EIS.

KE Response 2-5

In response to the comment, additional studies have been conducted by independent agencies and their findings are cited in the text, (see the References Cited section). Other studies are available through local planning agencies and commissions. Contact especially the Kane County Planning and Development Council.

Kanab Exhibit 3

Pat Heidenreich, SOURCE

KE Response 3-1

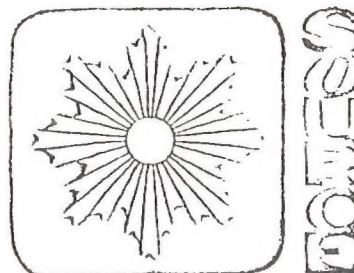
Your comments are noted and will be considered during the decision process.

KE Response 3-2

Your concerns are addressed in the revised Groundwater Pumping for Coal Slurry section under Alternative 1 in Chapter 4 of the final EIS. Pumping tests that will be monitored and evaluated by the Utah State Engineer are expected to be completed by the end of 1980.

KE Response 3-3

Your comments are noted. Refer to the Mining in the Alton Coal Lease Area section under Alternative 1 in Chapter 4 of the final EIS.



KE 3

SOUTHERN UTAH RESIDENTS CONCERNED
ABOUT THE ENVIRONMENT

Cedar City
P.O. Box 1453
84720

P.O. Box 28
Pine Valley, Utah
84722

July 30, 1980

TESTIMONY FOR THE PUBLIC HEARING ON THE DRAFT EIS ALLEN-WARNER
VALLEY ENERGY SYSTEM

We wish to commend the Bureau of Land Management Impact Team on the very thorough and comprehensive job they did in preparing this Draft Environmental Impact Statement.

It should be very clear to everyone, and particularly to the citizens of Kanab, that it is not a question of a yes/no decision. The EIS has listed reasonable alternatives to the Utah International (General Electric) proposal, any of which, except the "no action" alternative, not only would provide the people of Nevada and California adequate power for the next 20 years, but would lessen our country's dependence on foreign oil. Alternative #5, "Conservation and Alternate Energy Sources" would actually realize a greater saving of imported oil than the G.E. plan. In proposals #1 & 2, the ranchers of Johnson Canyon would be dried up and Kanab would risk being dried up primarily for the benefit of the stockholders of G.E.

The EIS points out that "an accurate determination of the watertable drawdown cannot be measured without a long-term pumping test which has not been conducted. To date, only a 10 hour limited pumping test was performed with inconclusive results. No determination can be made from available information to conclude if interference would occur to other existing or potential aquifer users." G.E. proposes slurry lines using 10,000 acre feet of water/year for 40 years, and even with the greatest imagination, it is hard to see how one could use data from 10 hours of pumping to determine what will happen during 40 years. We are not aware of G.E., the California Power Companies or even the Federal Government making any offer of a bond that would compensate Kanab if it does go dry.

The surface mining that G.E. has proposed threatens contamination of the ground water. I would like to quote the EIS page 4-24 & 25. "Removing and replacing the overburden during surface mining activities would contaminate ground water from increased leaching of disturbed material because total dissolved-solids concentrations could increase two or more times and a high concentration of nitrate in overburden material indicates that water in saturated overburden could become

nitrate contaminated and unsuitable for human consumption....Aquifer properties of the mine backfill would probably be poor and though the fill may become saturated, it would be too poorly sorted to produce good well yields....Accelerated erosion and associated reductions in water quality and quantity would occur on an undetermined acreage depending on the location of surface and subsurface mining and ancillary facilities. Erodibility of the soils varies widely over the area. Both surface and subsurface water quality and quantity would be adversely affected on 10,154 acres of the mining permit area.... Erosion and sediment yield to streams would be accelerated by surface mining. Sediment loads would be expected to increase in Kanab, Thompson, and Skutumpah Creeks, and Meadow Canyon Wash (Paria River Watershed). The sediment load passing from the mine area could create maintenance problems of sedimentation at downstream irrigation diversions and canals. In addition, increased sedimentation may occur in stream channels directly below the mine site, perhaps into lower Kanab Creek and Johnson Wash.... It is possible that the salinity may vary significantly from one area to another. The salinity of ground water intercepted by surface mining could be twice the salinity of the nearest drainage. Releasing this poorer quality water to the surface drainage could increase the salinity of the streamflow. The resulting flow and salinity would depend on the actual amount and quality of the added ground water, values which cannot be accurately identified at the present time. The impacts of such a situation are unknown".

Another thing that is of great risk is the land of the Alton Coal Fields. Revegetation still appears uncertain. Test plots exist in a greenhouse situation. So far, they have shown good results in the three years they have been growing. Please remember -- three years is no guarantee that it is permanent. Secondly, these past three years have offered abundant rainfall and snow. What will happen in the years of actual reclamation, is unknown. Thirdly, although it would be possible to put fencing around revegetation to keep out large animals such as deer and cattle, the rodent proof fencing of fine mesh used on the test plots is too expensive to use on large sites.

For the above reasons and also the very real degradation of Bryce Canyon National Park, SOURCE supports the petition of Johnson Canyon ranchers to the Office of Surface Mining to declare the Alton Coal Fields "unsuitable for mining".

Mining the Alton Coal Fields and slurrying the coal to the power plants as proposed in the C.E. plan, is completely unacceptable to SOURCE. We strongly favor Alternative #5.

Thank you

Patricia H. Heidenreich

Patricia H. Heidenreich
Iron County Co-ordinator
S.O.U.R.C.E.

KE Response 3-4

Refer to Las Vegas Public Hearing Response 12-7.

KE Response 3-5

Your concerns are noted and will be considered during the decision process. Refer to the revised Recreation and Aesthetics sections in Chapter 4 of the final EIS concerning the effects of mining on Bryce Canyon National Park.

St. George Public Hearing

SPEAKER

1. John Arlidge*, Nevada Power Company
2. Timothy Spangler*, North American Weather Consultants
3. Mayor James G. Larkin*, St. George, Utah
4. G. Murray Webb*, Washington County Commission
5. John K. Little
6. Caroline Lippincott
7. William A. Barlocker
8. Shirl H. Pitchforth*, St. George Utility Commission
9. Dale Dockstader*
10. Rudger McArthur*, Speaking on behalf of Ray DeMille, Hurricane Canal Company and representing Utah Utilities for City of St. George and Washington County Water Conservancy District
11. Ben Stout
12. Vern R. Thomas
13. Scott Hirschi*
14. Jeffrey Morby
15. Jay Beacham
16. Wayne B. Nuttall*, Wasington County Water Conservancy District
17. Pat Heidenreich*, SOURCE
18. Gordon Anderson, Friends of the Earth
19. Jane Whalen, Southwest Resource Council
20. Celia Rencher-Ryan, SOURCE
21. Ron Rencher
22. John Vander-Meide
23. Clayton Atkins
24. Jim Godfrey, Southwest Resource Council
25. Mark Meinert
26. Peter Ryan
27. Elizabeth Catalon
28. Wallace Ewell
29. Dr. Booth
30. Barbara Felton (Statement Read by Mr. Curtis)

1. John Arlidge, St. George Testimony
Refer to Victorville Exhibit 1.
2. Timothy Spangler, St. George Testimony
Refer to St. George Exhibit 1.
3. James G. Larkin, St. George Testimony
Refer to Victorville Exhibit 3.
4. G. Murray Webb, St. George Testimony
Refer to Letter 61 and Responses 61-1, 61-3, and 61-4.
5. John K. Little, St. George Testimony

SGT Comment 5-1

The statement is, I think, inadequate in that it doesn't state the treaties to which the Federal government is signatory and, I believe any change in that treaty would have to be proved by Federal government and all signatory states. Article 15 of the Compact states that water may be used for the production of electrical power, provided it's subservient to domestic and agricultural needs and that if a need arises, if there is any application that the water is for those purposes, it must be released by that utility until those needs are satisfied. The Section B of that Article does provide that these treaties will not interfere with the right of State or other authorities to regulate water within their boundaries. I would assume that it is possible under that treaty in the Warner Valley project and could be applied by circular lines. However, apparently Nevada Power could not.

SGT Response 5-1

A discussion of the Colorado River Compact and its reliance to AWV is provided in the Water Resources section in Chapter 3 of the final EIS.

SGT Comment 5-2

The impact statement does not go into the hydrology of the Navajo Sandstone aquifer. There are a number of reports which have come out since the studies were done from the statement. It should be updated to include those. Those include a study by U.S. Geological Survey, which I have referred to in my written statement, and this study by Robert Cordova clearly sets forth that the proposed withdrawal of water from this project will cause measurable interference with the springs and streams that supply the water over the area and possibly interfere with the Kanab city as well as other irrigation wells in the area and will cause a subsidence to the aquifer and will cause highly contaminated chemical waters to flow into the area and contaminated waters in the Navajo Sandstone to where they will not be suitable for domestic purposes.

The springs and wells which are in the Navajo Sandstone provide a water table profile which is very flat which indicates that there is a fairly high hydraulic conductivity rate. Also, the proponents have tested the waters from their test wells and find that they are in excess of 6 million years of any storage in that aquifer, in excess of 6 million, in an area which is

proved there is little, if any circulation through the aquifer. This, in turn, proves there is practically no leakage from the aquifer and that all the recharge to the aquifer occurs in the area of the springs and streams and wetlands from which the water is discharged from the aquifer and that the recharge, the net recharge, after evaporation, transference, and other such losses is only that which is required to supply the present springs and streams and wetlands, which are fully appropriated and have been for many years. There are proposed tests by which it is proposed to determine whether the project will interfere with established water. Now, insofar as these tests, as far as the data which is put into these projects, they may or may not be good, but take into account such things as faults, open sand leaches or other structures which can cause sucking of the water which would very substantially increase the hydraulic conductivity rate. The rate used in computers is 5/10ths of 1 foot per day. The figures which were given by the hydrologist, Robert Cordova, were 1 to 5 feet per day. The only type that has been conducted was conducted by State engineers in Johnson Canyon where the well measurements were measured for more than a quarter mile from the pumping site and interference showed up in less than 48 hours which is a rate in excess of 660 feet per day. That, in turn, is 130,000 percent already used in the mold, so we are a little bit leery about the mold.

SGT Response 5-2

Refer to Kanab Exhibit Response 1-2 for a discussion of the updated material in the Water Resources sections in Chapter 4 of the final EIS.

SGT Comment 5-3

With reference to the reclamation, we agree that reclamation can be accomplished if necessary procedures are followed. We think that the statement is inadequate in making provisions for maintenance, especially after the completion of the project. There are other successive profestation [successful reclamation - Ed.] projects that have been done.

SGT Response 5-3

Under stipulations concerning the revegetation of the strip-mined area, the developer will be required to restore the vegetation to its premining condition or better. This stipulation remains in effect after the life of the project.

6. Caroline Lippincott, St. George Testimony

SGT Comment 6-1

Now as far as the environmental impact statement goes, I think it needs to be analyzed more specifically about reclamation of the manner after mining since there are pretty stringent legal requirements regarding this. According to the Surface Mining Act, there must be restoration of the ground water recharge capacity. Now, according to the EIS statements and other reports in the Alton mine area infiltrating waters from direct precipitation on the permeable crop formation and streams runoff, it goes out across recharge the ground water aquifers. If the area is mined, the coal outcrop will be removed to the creeks and stream channels crossing the area and that will be irreversibly destroyed. The overburden containing great quantities of gypsum, shale, and other such materials will be impermeable. Rainfall and snow melt will run off and no recharge will occur in the area.

Now, in addition to this destruction of the watershed, large quantities of the proposed plan is 400,000 acre-feet of water be pumped from the sandstone, from the primary aquifer, the recharge from other areas will be observed to fill pressure pumps caused by the pumping. The Navajo is a filled aquifer, the discharge from it overflow. So every winter, summer it gets recharged on top of what is already there and that spills over and gives us our water in our streams and springs and wells. With this pumping, we won't be spilling over to feed the springs and wells.

The mining area cannot be restored to its present watershed capacity. The environmental impact statement should state this.

SGT Response 6-1

Refer to Kanab Exhibit Response 2-1 concerning this comment.

SGT Comment 6-2

Mining will cause an increase in the dissolved solid mineral concentration in the creeks, increased sediment will cause backfilling. The statement should say that.

SGT Response 6-2

Based on studies summarized in the Water Resources section for Alternative 1, Chapter 4 of the final EIS, the impacts of mine backfilling to water resources would be minimized with the required mitigating measures.

SGT Comment 6-3

From the torrential downpours there will be a great deal of erosion from the rains and from wind which will flow almost constantly. Below the surface there are a lot of materials that don't favor the growth of plants. Either those varieties currently left there or those proposed in the plan. My husband and I have a very difficult time getting fields of pressed wheat to grow even with irrigation and fertilizer and with weed control chemicals. The chances of success of revegetation in that area are slight and the environmental statement should state that.

SGT Response 6-3

The purpose of revegetation in disturbed areas is to reduce erosion from both water and wind. Studies conducted by Frischknecht and Ferguson (1980) in the Alton coal lease area have indicated that revegetation of the area is possible. A variety of methods used in revegetation procedures would be used. These are described in the Vegetation section of Chapter 4 in the final EIS.

7. William A. Barlocker, St. George Testimony

SGT Comment 7-1

We are not taking any of it [water]. State Law prohibits us from taking it . . .

You know, I have always said if we can get the birth rate to be zero, which I am not for, then we can stop building new jobs, but as long as you are having babies, we better create some more jobs.

SGT Response 7-1

Your comment is noted and will be considered in the decision making process.

8. Shirl H. Pitchforth, St. George Testimony

SGT Comment 8-1

The old, up to 1977, McDonald's forecast on their energy forecast for the year 2000 we have used up about 195 megawatts. In the new one says use 123.4. I think 123.4 is ultra conservative because in 1980 it shows 34.4. That's pretty close on the mark as it is actual. I just want to show you what's going to happen already on the drawing board for this year. We've got two public buildings sitting up there, a new city building and a new county building. Each one of those draws about 2 megawatts in demand. They only show 3 megawatts between 80 and 81. They've used most of that already. Now, there's a new shopping mall going up here. The one proposed on the board will be probably going before the planning commission before the end of this year. Those will come between 2 and 3 megawatts a piece. I know that within the next 3 years, there will be even more like church buildings in this area. Now the church building doesn't use continual power but they have a demand when things fire up. It is not to be ignored. They're big buildings and they require an awful lot of energy for cooling and heating. I would like the BLM to acknowledge that the needs of this power as laid out is still ultraconservative.

SGT Response 8-1

The Purpose and Need of Proposed Project section in Chapter 1 of the final EIS is revised to reflect your comment.

Refer to St. George Exhibit 2 for a discussion of the remaining comments from this presentation.

9. Dale Dockstader, St. George Testimony

Refer to St. George Exhibit 3 for this testimony and the responses.

10. Rudger McArthur, Speaking on behalf of Ray DeMille, Hurricane Canal Company

SGT Comment 10-1

They support this project because it is a vital means for getting inverted siphon to go past the old canal, put the water back in line of the present canal . . .

SGT Response 10-1

This comment is noted and will be considered in the decision making process.

For the testimony of Rudger McArthur representing Utah Utilities for the city of St. George and Washington County Water Conservancy District, refer to Letter 86 and the responses to this letter.

11. Ben Stout, St. George Testimony

SGT Comment 11-1

I am for the Warner Valley power project. The reasons I am for the project is, I believe it can provide a source of electricity that will be needed and I emphasize the word needed in our rapidly growing community.

SGT Response 11-1

Your views are noted and will be considered in the decision making process. Refer to the energy needs and oil displacement discussions in the Purpose and Need of Proposed Project section of Chapter 1, and the Virgin River System section, Water Resources under Alternative 1 of Chapter 4 in the final EIS for updated information on your concerns.

SGT Comment 11-2

I believe our population is growing much faster than the draft environmental impact statement suggests and this has been mentioned before. I believe our population growth is a lot more than their study indicates. I think our city of St. George has some very accurate population growth figures. Last year we had almost a 10-percent increase over the year before.

SGT Response 11-2

Refer to Letter Response 86-1 for a discussion of this comment.

SGT Comment 11-3

The draft environmental impact statement indicated that because of the [Snow] canyon well, we don't need any more water. Now for how long can that statement be valid, if it is valid today. I wonder if there is a word that the community of Santa Clara and Bloomington Hills are depending on St. George for water sources. The time to plan for the future is right now.

SGT Response 11-3

Refer to the Purpose and Need of Proposed Project section of Chapter 1 and table 6 of Appendix 11 in the final EIS for a discussion of water needs.

12. Vern R. Thomas, St. George Testimony

SGT Comment 12-1

In examining the document, I find that no resource organization was consulted that dealt with the problem of economic losses and economic benefits of such property as it refers to this particular family in this large statement. There was not one agency which dealt with this particular phase of the energy shortage; how it affects jobs, how it affects people and, in general, the economic impact of such a lack of such a project. I say then, - we say, as an organization, as a business organization, the statement as prepared is incomplete and fails to make a solution of the national energy problem and the local energy problems.

SGT Response 12-1

The provision of electrical power from the AWW project would have little or no noticeable effect on the gasoline shortage or the resulting decline in tourism. However, increases in population as a result of the project would have secondary effects on other industries such as in the service sector of the economy. For updated projections, see Appendix 17 in the final EIS.

13. Scott Hirschi, St. George Testimony

Refer to St. George Exhibit 4 for a discussion of these comments.

14. Jeffry Morby, St. George Testimony

SGT Comment 14-1

The Allen-Warner project is a project of which we must support. We have a great opportunity to take part in the effort of this country to solve our problem of energy, and in addition, to the problem of this country's problem with water by supporting these projects and making sure that it is accomplished.

SGT Response 14-1

Your views are noted and will be considered in the decision making process.

SGT Comment 14-2

I know for a fact the population projections that have been in this report are inaccurate. We have seen a great growth in our area and it has been very consistent.

SGT Response 14-2

Refer to Letter Response 86-1 for a discussion of this comment.

15. Jay Beacham, St. George Testimony

SGT Comment 15-1

What I was thinking is a potential alternative that was offered. I think it would be good, number one, to forget the Warner Valley powerplant and build a reservoir which we really need. There are other reservoirs on convergent systems which can generate enough electricity, I think should be routed somewhere else. The project is just fine except we do not get the air we need. We have got enough technology to surely straddle that problem. Hopefully, we can have this system to generate enough electricity without being so polluting.

SGT Response 15-1

Your views are noted and will be considered in the decision making process.

16. Wayne B. Nuttall, St. George Testimony

Refer to Letter 72 for this testimony and the corresponding responses.

17. Pat Heidenreich, St. George Testimony

Refer to St. George Exhibit 5 for comments and responses from this presentation.

18. Gordon Anderson, St. George Testimony

SGT Comment 18-1

Well, I support Alternative 5, personally. I don't see why we need to destroy the quality of life in this area, why Utah Power & Light can't supply that power. There shouldn't be any objection from anyone in this room of Utah Power & Light supplying this electricity out there. According to the draft EIS, remember, 83 percent of this power is going to California. According to the draft EIS, California leads the nation in its promotion of alternative energy sources and conservation measures. State policy is that alternative energy sources, solar energy and wind, cogeneration, can and should play an increasingly important role in meeting energy needs. The California Energy Commission states geothermal, cogeneration, renewable energy resources, including solar, are available now. They should be expanded because of their favorable and environmental characteristics, their efficiency, their more stable cost, the fact they're indigenous to California. Now, application of Alternative Number 5 in the service areas would result in an energy savings and displacement of 4,349 megawatts, almost twice that Allen-Warner Valley would produce by 1991, is over and above what the capacity projected by the utilities is. This capacity would be equivalent to displacing 43 and a half million barrels of oil a year, so there is more than one way to get around the Ayatollah.

SGT Response 18-1

Your views are noted and will be considered in the decision making process. See the Purpose and Need of Proposed Project section of Chapter 1 and Alternative 6 in Chapter 4 of the final EIS concerning the availability of power for the St. George service area from UP&L.

19. Jane Whalen, St. George Testimony

SGT Comment 19-1

The Department of Interior recently concluded that alternatives are completely feasible and suitable for the Allen-Warner Valley Energy System. The recent announcement of the construction of two coal powerplants, well then California will be delayed because of decreased demands, and that raises questions in our minds about the need for the proposed project and the sense of urgency that seems to surround it. This suggests that there is time to develop an alternative to the proposed project that is growing marginally acceptable.

SGT Response 19-1

Your views are noted and will be considered in the decision making process. See the discussion of energy demand in the updated Purpose and Need of Proposed Project section of Chapter 1 in the final EIS.

SGT Comment 19-2

The EIS states that the reservoir actually yields as projected assimilation, however, varying between 16,000 or 63,000 acre-feet due to extreme fluctuations in early precipitation. Since the average annual yield of precipitation simulation is 32,000 acre-feet, it appears unlikely that 49,000 acre-feet scheduled, as proposed by the Washington County Water Conservancy District, will ever be really realized. There is not that much water in the Virgin River to take care of all this projected development. A recent

petition filed in June to determine all the rights to the use of the water, both surface and underground within the drainage area of the Virgin River, Utah, may present accurate figures on just who and what rights will be questioned - what rights will be unquestioned for some time to come.

SGT Response 19-2

The mean annual runoff volume at the proposed Warner Valley project diversion (assuming a diversion of about 6,500 acre-feet per year to the proposed Kolob Reservoir) would be 117,100 acre-feet. This petition (Civil No. 7956, Utah Fifth District Court) is pending.

SGT Comment 19-3

Another problem with the water is the problem with water and coal as it comes out of the slurryline. When coal is separated from - when the water is separated from coal, there is a loss of some of the Btu capacity. In the Alton coal, it is already at a level of Btu with high ash, high sulfur content, that it can hardly be compared to other available coal sources on the market today. There is enough coal on the market to make a choice, and the reason the coal is cheapest and is available because they are getting the transportation for free. Just what are the beneficial uses going to be to all of us, the Utahns, when we lose our water, our air, our coal, and our electricity?

SGT Response 19-3

Your comment will be considered in the decision making process.

SGT Comment 19-4

The Harry Allen plant raise some major problems, as well, that need to be addressed. The cooling towers that will release ammonium, which will react as sulphate to produce air salts, will reduce visibility more than previous estimates indicate. Short-term increases in nitric oxide deter that subway ozone problems must face, as well as visibility problems, are already occurring as we all realize every time we drive through Las Vegas.

SGT Response 19-4

Refer to Letter Response 5-2 concerning ammonia, and Letter Response 5-1 concerning ozone and visibility impacts to Las Vegas.

SGT Comment 19-5

Current reliability estimates for air pollution control equipment are overly optimistic. More realistic appraisals of equipment and reliability would yield more pessimistic estimates of potential air quality problems.

SGT Response 19-5

In its determination of BACT (which was used to estimate air quality impacts), EPA considers the reliability of equipment.

SGT Comment 19-6

The additional air pollution resulting from the Allen-Warner Valley project cannot be considered in isolation from these other projects. EPA approved the additional Ford unit, 250 megawatt unit, to the Reid Gardner plant in Nevada. This would bring Reid Gardner within 97 percent of the 24-hour national air quality standards for sulfur dioxide, 84 percent of the particulates, and it would also be 75 percent of the 24-hour Class II PSD for

sulfur dioxide, about 90 percent of the particulates. How do we know about the future of the Allen-Warner Valley, the growth of these plans, and its potential?

SGT Response 19-6

Refer to Letter Response 87-2 concerning this comment.

SGT Comment 19-7

We challenge the statistics on the tracer studies. I lived in Hurricane for quite some time and was around when the test was occurring, and there was supposed to be a time when atmospheric conditions were at its worst, and they weren't. We would challenge the figures on that study. If we are going to whittle away the national parks, we should recognize at the beginning that all such whittlings are cumulative, and that the end result is mediocrity, and that all the greatness will be gone.

SGT Response 19-7

Refer to Letter Response 88-115 for a discussion of this comment.

20. Celia Rencher-Ryan, St. George Testimony

SGT Comment 20-1

We are talking about the water at Kane County; the whole test well process conducted to date by Utah International in the Alton area has been ridiculously inaccurate, to say the least. The test wells that provide data on the water table elevations are the most crucial bit of data, and are relatively close together, and no reliable measurements of saturate thickness are available for the proposed well sites at a greater distance from the plant site. To accurately determine the extent of water table drawdown, a long-term pumping test would have to be conducted, but no test has been done to date.

It seems to me if Utah International wants this operation so badly, they should have been out there a long time ago conducting all these necessary tests to clear up this pile of inconclusive data.

SGT Response 20-1

Refer to the Ground Water Pumping for Coal Slurry section under Alternative 1 in Chapter 4 of the final EIS for a discussion of this information. Further studies on water resources in the Alton coal lease area have been completed.

SGT Comment 20-2

The EIS states the impact of the Harry Allen Warner Valley powerplant on a short term radioactive neutraceutical would not be significant; however, the impact over a long-term period like the life of the project is not known. This long-term radioactive neutraceutical better be known.

SGT Response 20-2

Radioactive emissions are discussed in the Radioactive Nuclides section under Alternative 1 of Chapter 4 in the final EIS. Long-term impacts would not be significant as concentrations would be well below natural background levels.

SGT Comment 20-3

In Appendix 6 under Standard Operating Procedures of air quality, it states that, "If trace element problems developed based on fallout monitoring, operations of the powerplant will be modified to eliminate these effects." How effective would those procedures be? "Modification of the powerplant based on monitoring would be 100 percent effective in preventing trace element problems beyond those occurring up to the time of the modification." If I understand this correctly, the modifications would simply prevent the trace element problem from being any worse. It would not attempt to lessen trace element problems. This is totally unacceptable and is certainly not 100 percent effective.

SGT Response 20-3

This mitigating measure is modified in Appendix 13 of the final EIS. Fallout monitoring would detect potential adverse effects; however, there is no 100-percent effective method to eliminate emissions of trace elements.

SGT Comment 20-4

SOURCE supports Alternative 5. Full implementation of this alternative by the year 2000 would result in a reduction of key energy demands of 413 megawatts. This would be a surplus of 60 megawatts over and above the capacity that could result from the Allen-Warner Valley project for Nevada Power. In the PG&E and Southern California Edison service areas, Alternative 5 would result in 3,059 megawatts and 1,108 megawatts surplus, respectively, over and above the capacity needed by 1991. The reduction in total energy consumption would result in lowering of overall energy cost to consumers.

SGT Response 20-4

Your views are noted and will be considered in the decision making process.

SGT Comment 20-5

In conclusion, in reading through the EIS, it is to the frustration of the reader that the EIS is wrought with phrases of ineptitude, such as: The impacts of such a situation are unknown; the extent of this damage can't be quantified; no such tests have been conducted to state the actual effect of these tests; factors can't be quantified at this time; there is insufficient information to determine the extent of the fault in the Navajo sandstone; no determination can be made from the unavailable information, cannot be determined due to insufficient data; little data is available in ground water occurring in and near the lease area; the result from the tests are unknown; the impact over long-term life of the project is not known; the frequency of occurring conditions is not known; couldn't be determined due to insufficient data; values which can't be accurately identified at the present time; reclamation may be hampered by lack of topsoil, poor physical and chemical topsoil characteristics, and the variability of precipitation. It is our sincere hope that the final EIS will not be cluttered with such inconclusive information.

SGT Response 20-5

Refer to Letter Responses 22-1 and 104-21 for a discussion of this comment.

21. Ron Rencher, St. George Testimony

SGT Comment 21-1

Utah Power & Light in their annual report, I think it was 2 years ago, did a study whereby they put it on a graph, put their consumption and rate hikes for their consumers on a graph, and every time they raised their rates, the consumption went down. Typically when powerplants raise their rates, as UP&L was able to raise their rates to finance the new generating facility, they found out that when they raised their rates, the public cut back their consumption to the point where they no longer needed to build that new facility.

SGT Response 21-1

The electrical energy needs projected in the final EIS take into account the point mentioned. See the Purpose and Need of Proposed Project section of Chapter 1 in the final EIS.

SGT Comment 21-2

In conclusion, I represent myself and future generations. I support Alternative Number 5 because I think it is the only long-term solution to the problems that we have today.

SGT Response 21-2

Your view is noted and will be considered in the decision making process.

22. John Vander-Meide, St. George Testimony

SGT Comment 22-1

Well, I am sure that after the thing is built and certain wells, it may not be us, it may be other well users. Your own well probably will go dry, and there are some people who will get hurt. It could be some of us; it could be some other people. What remedy does the public, does the little guy, really have? Can you sue the government? Do you go to the canal company and say, now, I want a thousand acre-feet of water; how can I get it? What is the remedy? If you are allowed to sue the government, then what would the cost of this remedy be to this project? In other words, if the people up in one area lose their water because their table drops, what is the cost of the impact of that going to cost the taxpayers? If it is basically tough beans, you are out of water, see you later, we can't undo the project; it is here now - so the problem that this book lacks is a remedy or cost of a remedy to the people that are going to get hurt by the project. Do they have a right to sue the government? Do they have a right to recover their losses? I'd like to see that included in this book, the cost of that remedy. If the people who depend on water in Kane County and Washington County lose some of their water, what would be the economical loss be either to the project because of a suit or to the individual because it is tough beans? I'd like to see that presented to the Secretary of Interior so we, at least, know what the cost of the remedy will be.

SGT Response 22-1

The Utah Division of Water Rights is the agency charged with appropriating and allocating water rights. BLM analyzes all existing data on water resources but it does not approve or disapprove water applications.

23. Clayton Atkins, St. George Testimony

SGT Comment 23-1

We have got a national resource lying there; let's use it. It is not going to hurt our country by using these things, and I have got enough faith in the technology and the expertise of our people today, and this is where some of the environmental concerns have to have a good head, that they will control the quality of air that comes out of those things, and emissions and things. I think they can handle that.

SGT Response 23-1

Your views are noted and will be considered in the decision making process.

24. Jim Godfrey, St. George Testimony

SGT Comment 24-1

For instance, the California public utilities have already cited that both SCE and PG&E can, through cogeneration, create enough megawattage to accommodate what they will be drawing from the Warner Valley project. Conservation is a very strong case for doing such a thing, and it seems like it has not been mentioned very often, the usage of electricity. I was very curious that no one had mentioned that.

SGT Response 24-1

Your views are noted and will be considered in the decision making process. The topics of your comment are discussed in the Existing and Projected Electrical Energy Demand section of Chapter 3 and the Alternative 5 section in Chapters 2 and 4 of the final EIS.

SGT Comment 24-2

I want to mention, also, some of the questions that have come up about the reservoir. I hope the EIS will take this into account also. Real Hea then has identified the fault line of Hurricane fault as probably the most active and dangerous fault in Utah, more so than the Wasatch fault. This goes right beneath the reservoir, and while the reservoir has its merits, they have a reservoir in an unstable position which needs to be looked into.

SGT Response 24-2

The Hurricane fault does indeed lie near the Warner Valley water project, and this was considered in the analysis. Recent (Holocene period) faulting does not appear to have occurred along the Hurricane fault, or any other faults in the Arizona-Utah border region, and therefore, the fault appears to pose a minimal threat to the dam structure.

SGT Comment 24-3

Another question is the salinity of the Virgin River. For a long time, there was going to be a project that was going to be a saline authentic spring, but that has since been scrapped because of the prospectus and effectiveness of that, and now one diversion happens, and there will be saline going into the Colorado River affecting all the people downstream. I would like the EIS to look into this and come up with some conclusions.

SGT Response 24-3

Refer to the Effects on the Virgin River System section under Alternative 1 of Chapter 4 in the final EIS for a discussion of salinity impacts that reflects your concern.

SGT Comment 24-4

The socioeconomic situation of the EIS brought questions into my mind, also. We looked into the primary increases, and I cannot find anything that would mention any one of the most present parts of socioeconomics. We are drawn into categories where they shift from one group to the next group; people living there would be living there, but in reality, people will choose the path of least resistance. To me, living in Hurricane, Hurricane stands as a primary target for enormous impact. We have the road bend 11 miles away from where the plant will be, and with a new allocation of land in that area, it seems as though Hurricane will definitely come up with the greatest impact of these people. That being the case, crime for instance, which is of greatest concern to the people in this town, is that according to attorney Paul Graff, crime rises at a rate of four to six times for every 1 percent increase. In other words, 100 percent increase brings 400 to 600 percent more crime than we know it now, so we would appreciate this being looked into for the future.

SGT Response 24-4

Refer to the Socioeconomics section under Alternative 1 of Chapter 4 in the final EIS for a discussion of the topic of this comment.

SGT Comment 24-5

Along the same socioeconomic ideas is the cry tourism, that tourism won't be affected. We are looking at an increase. Even this year there has been gas problems, an increase of 12 percent tourism in Bryce and Zions Park, and they are going to have different effects on these places that we are going to have to realize. I think this certainly should be looked into.

SGT Response 24-5

To reflect this comment, a discussion on tourism is included in the Recreation and Aesthetics sections of Chapter 4 in the final EIS.

SGT Comment 24-6

Hurricane's master plan comes close to the picture of an agricultural community, a community dedicated and brought by forefathers and people who believe in this area. It should be used for agriculture, and should be continued to be dealt with along the lines of planting and so on. Along that line, that Hurricane's master plan could encourage not clouding the air with this Allen-Warner Valley project, we want to really suggest that all of these things, socioeconomics and such, that Hurricane might be turned into an area of subdivisions, and that the agriculture area of Utah heritage would be clipped off, both at Kanab and Glendale Springs, and at the Hurricane fields, and we need to look at if this is truly what we want to do.

There was a person, Gordon Pinper, who was the supervisor of the State Department of Agriculture in Utah, who said there is a definite decline, meaning more crops than human crops, and that was a more dangerous situation than just the lack of power. If we lose our ability to feed ourselves, then suddenly we are going to be in a very, very vulnerable position.

SGT Response 24-6

Analysis of potential impacts from the construction of project components in the vicinity of Hurricane indicates there would not be any loss of existing agricultural lands. Project proponents contend that at least a portion of the water from the Warner Valley water project would be available for agricultural purposes.

25. Mark Meinert, St. George Testimony

SGT Comment 25-1

It really differs in no way to any other contemporary energy project that is proven to be only a temporary solution. There exists nothing in it which will advance our society or individuals of society. It produces electricity, money, pollution. It will not advance another thing or attitude toward our future. It is a temporary solution, not a progressive improvement over the past. It is stagnant, and it utilizes very little new technology. It suffers an acute lethargy. On the other hand, alternative sources of energy encourage hope and future in our minds and souls.

SGT Response 25-1

Your views are noted and will be considered in the decision making process.

26. Peter Ryan, St. George Testimony

SGT Comment 26-1

Our most severe energy shortage is our unwillingness to start going to alternative energy, and the Allen-Warner project is temporary. It is not really a long term solution. We have to think ahead.

SGT Response 26-1

Your comment is noted and will be considered in the decision making process.

27. Elizabeth Catalon, St. George Testimony

SGT Comment 27-1

But another thing that you need to consider is when you build that reservoir and run over Hurricane fault, you also have to consider something the government has left out. Every time they shoot off another bomb underground, those fault lines rock, and if you want to question me, I can give you the authorities to contact, and you can find out about that. That is a fact that has to be considered.

SGT Response 27-1

Refer to St. George Public Hearing Response 24-2.

SGT Comment 27-2

Another is the up and coming socioecological impact of the MX.

SGT Response 27-2

The cumulative impacts of both the AWW project and MX cannot be adequately addressed until decisions concerning the basing mode of MX are made by the U.S. Air Force and their environmental impact assessment work has been conducted.

28. Wallace Ewell, St. George Testimony

SGT Comment 28-1

I'd like to know one alternative energy source that is on the line right now. Somebody name just one. They have many ideas, they are trying many things, but they are years away.

SGT Response 28-1

The use of alternative energy sources is especially active in California. For details, refer to the Existing and Projected Electrical Energy Sources Mix section in Chapter 3 of the final EIS.

SGT Comment 28-2

We need this energy, and we need it now, or we are not going to grow. If we don't grow, then we will stagnate. When we do that, this country will start losing its population, and things will go down, and it won't be worth it.

SGT Response 28-2

Your comment is noted and will be considered in the decision making process.

29. Dr. Booth, St. George Testimony

SGT Comment 29-1

We are also taking the word of a very few people as to the facts. We do need X amount of power, X number of times, and that it could only come from this project, whereas we require a bureau the size of the Bureau of Land Management to tell us whether or not a plan is economically or environmentally feasible. We still undertake the word of one or two people in our community about the need, the absolute need of these kinds of projects.

SGT Response 29-1

Forecasts for energy needs were made by the proponents and were subject to independent verification. Refer to the Purpose and Need of Proposed Project section under Chapter 1 of the final EIS for details of the verification findings.

SGT Comment 29-2

My feeling is this area can't stand it. I don't think it can take 500 to 2,000 people that it will need to come here to live a short period of time for the construction of this project, if it should be approved. We have heard from Ms. Catalon who has not raised her children, and we have heard a lot from men who have come and already raised their children here. I raised my kids in this area, and I am concerned about what 2,000 people of the type that would come and build a power project would do to our schools, to our churches, and to our hospital system. I am not expressing an opinion one way or the other in terms of what they ought to do with the system. I am very much concerned in what they will do.

SGT Response 29-2

Impact analysis indicates that Hurricane and nearby communities would indeed experience difficulty in accommodating project associated growth.

SGT Comment 29-3

Finally, no one has shown us why we need a plant right there, a big plant at the Allen area. Why can't it be built in an area out in Page, out in the Glendale area? Why do we have to build another semi-big, obviously quite small plant which we also have never been told may be doubled, tripled, or quadrupled in the next 10 years. It has never been told to us why. Are people keeping things from us on both sides?

SGT Response 29-3

The applicants selected the areas of the proposed powerplants. These proposed powerplants are subject to a variety of environmental standards and regulations which are designed to preserve human health and safety. Areas such as Glendale and Page already are the sites of powerplants which are at maximum capacity because of environmental regulations.

30. Barbara Felton, St. George Testimony (read by Mr. Curtis)

SGT Comment 30-1

A power increase has been stated vital to St. George. No mention has been made of delivery to the surrounding communities now served by CP National. If Utah Power & Light succeeds in purchasing CP National system, all of these communities will derive no benefit from the Warner Valley powerplant. In fact, one wonders if 500 or even 250 megawatts would be needed by St. George alone.

SGT Response 30-1

Your views are noted and will be considered in the decision making process.

SGE ①

COMMENTS FOR PRESENTATION AT THE BLM HEARINGS ON THE ALLEN-WARNER VALLEY ENERGY SYSTEM

My name is Timothy C. Spangler and I am Vice President of North American Weather Consultants, a Certified Consulting Meteorologist, and was the Project Manager for a Gas Tracer Field Program conducted for the Warner Valley Generating Station during January 1980. The program investigated plume dispersion patterns in the vicinity of the proposed Warner Valley generating station during the period January 14 to the 27th, 1980. The program consisted of eight (8) separate tracer releases on six (6) days with each release accompanied by extensive meteorological measurements of surface winds, wind aloft, and vertical temperature profiles.

The period of the study was excellent for the evaluation of stable plume impact on the surrounding terrain. The weather included the most frequently occurring wind directions, the winds were light and surface inversions were present most every night. Conditions for direct stable plume transport toward Zion National Park were not encountered, but an evaluation of regional climatology indicated that such conditions are so rare that they may not occur at all in any given year. I'll comment more on that later.

The tracer study was designed with inputs from the EPA and National Park Service, both of which were invited to send representatives to observe the study. Their representatives were present during the early part of the study and did observe one experimental day.

A tracer gas and visible smoke were released at altitudes approximating the generating station plume rise. The exceptions to this were the releases attempting to evaluate impact in Zion National Park which were released at heights significantly exceeding the expected plume rise in response to a suggestion of the EPA. This was done in order to reach an altitude with flow going toward the park since the low level flow in which the generating station ^{plume} would have been trapped was draining the opposite direction. The tracer program provided quantitative plume impact evaluations for stable southeast, stable southwest, and nighttime drainage flows. In addition, the results of the study contained valuable information on the structure of stable drainage flows in the Warner Valley area.

Reviewing first the potential impact in Class II areas: The tracer studies showed that the maximum Class II three-hour concentration to be expected was on Sand Mountain just northwest of the plant site. The concentration measured under stable conditions was $58 \mu\text{g}/\text{m}^3$ which is far below the Class II three-hour PSD increment for SO_2 .

The maximum estimated 24-hour concentration at the same location was $15 \mu\text{g}/\text{m}^3$ or again far below the Class II PSD increment.

Previous model evaluations of impact on Sand Mountain have used the EPA Valley Model with a plume rise equation (Briggs; 1969, 1972) that underpredicted the actual rise when compared with recent studies by Sutherland and Spangler (1980).

When a more recent plume rise equation from Briggs, 1975 is used in the Valley Model, the maximum 24-hour concentration

for Sand Mountain is $50 \mu\text{g}/\text{m}^3$. This represents 55% of the Class II 24-hour increment for SO_2 .

Thus, the tracer study concluded that neither the 3-hour or 24-hour PSD Class II increment will be exceeded based on both measured and model information.

Zion National Park is the only existing Class I area near the proposed generating station that might be affected by the plant effluent. To date, the predicted impact at Zion using the Valley Model has indicated that the 24-hour Class I PSD increment could be exceeded. I feel that using the Valley Model in this situation is not reasonable for four reasons.

First: The Valley Model was applied assuming direct plume transport from the source to the park - an unreasonable assumption for such complex terrain.

Secondly: The evaluation of the predicted plume rise indicates that the plume would not rise sufficiently to exist the frequently occurring drainage flow away from the park and enter the southwesterly flow aloft. Thus, the plume cannot be transported towards the park when stable conditions are most likely to exist.

Thirdly: Measurements of plume dispersion during the study show that the plume dispersion was enhanced by the rugged terrain features of the area. This enhancement is not incorporated into the Valley Model.

Lastly, the Valley Model computation assumed a very stable case. Data from the National Weather Service rawinsonde stations

in the western United States have shown that the very stable case is a very rare occurrence above 300 m agl.

The conclusion of our study is that the maximum concentrations in Zion National Park will not exceed either the Class I 3-hour or 24-hour increment for SO_2 .

The results of the study also speak, however, to the visibility analysis presented in the Allen-Warner Valley Energy System Environmental Impact Statement. The visibility analysis presented by Williams assumes that the plume is transported directly to Zion National Park with a 2 m/s wind and stable conditions. In addition, the analysis assumed that the plume will rise to a height sufficient to clear all the upwind terrain during transport to the Class I area. These assumptions are unreasonable for reasons similar to those just given for not using the Valley Model for estimating impacts in Zion:

First: The plume was transported directly to Zion National Park when numerous studies have shown that stable light wind cases exhibit extensive plume meandering, especially in complex terrain.

Secondly: A very stable case with southwest flow was assumed to exist several thousand feet above the ground. An analysis of Western NWS rawinsonde data from stations such as Salt Lake City and Las Vegas show that such cases occur less than seven times per year on the average at that altitude. The same analysis also showed that at Las Vegas, the closest rawinsonde station to Warner Valley, the combinations of a very stable case and flow from the southwest quadrant occurred less than one half day per year at 1500 feet above ground level.

Thirdly: The possibility that the plume under stable conditions could rise to a height which would clear intervening terrain for its transport to Zion National Park is shown to be clearly unreasonable by data gathered in the tracer study. The weather that causes a stable case to occur, also causes a significant drainage flow. When this drainage flow ~~occurs~~ *occurs* the Warner Valley Generating Station plume will be trapped in a flow away from Zion some 1500 to 2000 feet below the altitude necessary for it to be transported toward the Class I area without encountering intervening terrain.

In conclusion, to make an assumption that a stable plume can be transported directly to Zion National Park in the visibility analysis, is to be considering a scenario that may never occur. Thank you.

St. George Exhibit 1
Timothy Spangler, North American Weather Consultants

Refer to Letter Response 88-115 for a discussion of the comments in this exhibit.

REFERENCES

- Briggs, G. A., 1975: Plume rise predictions. Lectures on Air Pollution and Environmental Impact Analysis. Am. Meteor. Soc., Boston, MA.
- , 1972: Chimney plumes in neutral and stable surroundings. Atmos. Environ., 6, 507-510.
- , 1969: Plume rise. U. S. Atomic Energy Comm., Div. of Technical Information.
- Sutherland, V. C. and T. C. Spangler, 1980: Comparisons of calculated and observed plume rise heights for scrubbed and non-scrubbed buoyant plumes. AMS/APCA 2nd Joint Conf. on Applications of Air Pollution Meteorology, March 24-27, 1980, New Orleans, LA.

STATEMENT FOR PUBLIC HEARINGS
ALLEN - WARNER VALLEY ENERGY SYSTEM
SHIRL H. PITCHFORTH
JULY 31, 1980

MY NAME IS SHIRL H. PITCHFORTH. I AM CHAIRMAN OF THE CITY OF ST. GEORGE UTILITY COMMISSION AND HAVE HAD THAT RESPONSIBILITY FOR THE PAST 16 YEARS. I AM A RESIDENT OF THE CITY OF ST. GEORGE AND HAVE LIVED IN ST. GEORGE FOR 60 YEARS.

THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE ALLEN-WARNER VALLEY ENERGY SYSTEM CHALLENGES THE NEED OF ST. GEORGE FOR ELECTRICAL ENERGY FROM THE SYSTEM AND THE NEED OF WATER BY ST. GEORGE AND THE SURROUNDING COMMUNITIES. I WOULD LIKE TO POINT OUT A FEW ITEMS FOR YOU TO CONSIDER.

EIS TABLE A-10-1 SHOWS THE 1980 POPULATION AS 10,946 AND A 2020 POPULATION OF 24,416. THE TABLE ON PAGE 1-4 INDICATES AN ANNUAL POPULATION INCREASE OF 2.2%. OBVIOUSLY THE TREND INDICATED BY THE TABLE IS WAY OFF. THE EIS DOES ACKNOWLEDGE THAT ST. GEORGE CITY HAS A GROWTH HISTORY OF 7% TO 10% AS INDICATED IN THE PARAGRAPH HEADED "POPULATION" ON PAGE 3-31.

WE RAN GROWTH STUDIES TEN YEARS AGO ON BASE LINE FIGURES OF POPULATION, WATER AND ELECTRICAL NEEDS DERIVED FROM TEN YEARS OF ACTUAL HISTORY AND PROJECTED 20 YEARS INTO THE FUTURE BASED ON A COMPOUND 7% POPULATION GROWTH. OUR TREND FIGURES PROVE TO BE EXCEEDINGLY ACCURATE AND ARE COINCIDING VERY CLOSE TO THOSE OF THE BURNS-MCDONNELL FORECAST. WE PRESENTLY BILL 4100 RESIDENTIAL ELECTRIC METERS. TIMES THAT BY THE NATIONAL ACCEPTED AVERAGE OF 3.5 POPULATION PER RESIDENCE AND YOU GET 14,350. THERE IS NO WAY YOU CAN PROJECT A DEMAND FOR WATER OR POWER WITHOUT ACCURATE BASE-LINE FIGURES.

ON PAGE 4-31 TABLE 4-1 THE ENVIRONMENTAL IMPACT STATEMENT SHOWS A 1980 DAILY WATER REQUIREMENT FOR THE CITY OF ST. GEORGE OF 4,926,000 GALLONS. A 10,987,000 GALLON DAILY REQUIREMENT IS INDICATED FOR THE YEAR 2020 AND A PRESENT SYSTEM CAPACITY OF 14,057,000 GALLONS DAILY. THE FACT IS, THAT WE HAVE HAD DAILY REQUIREMENTS DURING EACH OF THE LAST 5 YEARS OF OVER 10,000,000 GALLONS PER DAY.

ON PAGE 1-3 PARAGRAPH 4, THE EIS INDICATES THE STATE OF UTAH REQUIRES 800 GALLONS PER DAY PER CONNECTION BY ASSUMING 2.5 PEOPLE PER HOOKUP. PLEASE BE ADVISED THAT THE STATE OF UTAH REQUIRES 800 GALLONS PER DAY PER HOOKUP FOR IN HOUSE USE FOR APARTMENTS, CONDOMINIUMS, ETC., BUT IF YOU HAVE A SUBDIVISION OR RESIDENCE WITH LANDSCAPING AND YARDS YOU ARE REQUIRED TO HAVE 1600 GALLONS PER DAY. YOU SHOULD REJECT THE 800 GALLONS PER DAY INFORMATION. YOU SHOULD ALSO BE AWARE THAT WATER IS LIKE ELECTRICITY YOU HAVE TO SUPPLY A PEAK DEMAND WHICH IS NOT ALWAYS SUBJECT TO WRITTEN FORECAST.

THE MUNICIPAL WATER SYSTEM OF THE CITY OF ST. GEORGE FURNISHES WATER FOR THE IRRIGATION OF PARKS, CEMETERIES, GOLF COURSE, AND MAINTAINS

St. George Exhibit 2
Shirl H. Pitchforth

SGE Response 2-1
Refer to Letter Response 86-1 for a discussion of this comment.

SGE Response 2-2
The Purpose and Need of Proposed Project section under Chapter 1, table 6 of Appendix 11, and table 1-6 of Appendix 17 are revised in the final EIS to reflect your comment.

SGE Response 2-3
The Purpose and Need of Proposed Project section of Chapter 1 is revised in the final EIS to reflect your comment.

TWO IRRIGATION STREAMS FOR WATERING YARDS AND GARDENS. THE EIS MUST TAKE INTO CONSIDERATION THESE USES WHEN ARRIVING AT A USE REQUIREMENT IN THE ST. GEORGE AREA. GALLON CONSUMPTION IN THIS AREA CANNOT BE DETERMINED BY THE 800-1600 GALLON PER DAY RULE.

4 I URGE YOU TO LOOK FAVORABLY AT BASE-LINE FIGURES IN THE BURNS-McDONNELL FEASIBILITY STUDY FOR THE CITY OF ST. GEORGE. THE STUDY WAS MADE WITH NO PRESSURE OR BIAS ON OUR PART AS A MEANS OF SUBSTANTIATING OUR PARTICIPATION IN THE WARNER VALLEY POWER PROJECT. THE BURNS-McDONNELL STUDY WAS THE BASIS FOR THE CITY OF ST. GEORGE OBTAINING FINANCIAL BACKING BY THE BONDING FIRM OF MERRILL LYNCH & ASSOCIATES, FOR OUR PARTICIPATION IN THE ALLEN-WARNER VALLEY ENERGY SYSTEM. IT IS ALSO DIFFICULT FOR ME TO UNDERSTAND WHY SO MUCH DATA AND INFORMATION, THAT WAS GATHERED AND PAID FOR BY THE PRINCIPALS OF THE ALLEN-WARNER VALLEY PROJECT ON THE FIRST EIS STUDY, FOR WHICH WE SPENT MILLIONS OF DOLLARS AND MILLIONS OF MAN HOURS, PREPARED AT THE REQUEST OF BLM, IS CAST ASIDE AND NOT USED SO TO SPEAK.

5 IN REFERENCE TO THE EIS INFERENCE THAT UTAH POWER AND LIGHT WOULD HONOR ALL EXISTING CONTRACTS. THAT IS UNDOUBTEDLY TRUE, HOWEVER ST. GEORGE IS UNABLE TO OBTAIN A FIRM POWER CONTRACT WITH UTAH POWER AND LIGHT UNDER ANY CIRCUMSTANCES, UNLESS WE PURCHASE PART OF ONE OF THEIR GENERATING SYSTEMS AT TOMORROWS COSTS AND PAY TOMORROWS WHEELING COSTS OVER THE UTAH POWER AND LIGHT TRANSMISSION SYSTEM AND ESTABLISH SOME PATH THROUGH THE EXISTING CPN AREA.

5 WE HAVE BEEN ASKED THE QUESTION "IF WARNER VALLEY WEREN'T BUILT WOULD THE LIGHTS GO OUT IN ST. GEORGE?" WE WOULD ENDURE BROWN OUTS AND BLACK OUTS AND BE HARASSED BY MANY POWER FAILURES UNTIL SUCH TIME AS WE COULD ACQUIRE GENERATION AND TRANSMISSION FROM SOME OTHER SOURCE. ELECTRICAL SERVICE TO CITIZENS OF WASHINGTON COUNTY WILL COST A GREAT DEAL MORE IN THE FUTURE IF THE WARNER VALLEY SYSTEM IS NOT BUILT.

6 PAGE 2-44 OF THE EIS MENTIONS SOLAR SYSTEMS AS THE METHOD FOR CONSERVING HUGE AMOUNTS OF ENERGY. THAT IS TRUE, BUT AT A PRICE. ALSO, YOU WILL BE INVESTING LARGE AMOUNTS OF MONEY FOR THE NEXT 10 TO 20 YEARS OF BUILDING MODIFICATIONS FOR EXISTING STRUCTURES AND ADDED COSTS TO AN ALREADY SUPER PRICED BUILDING INDUSTRY, AND YOU ALSO STILL MUST HAVE BACKUP SYSTEMS THAT CAN ONLY BE FROM COAL FIRED GENERATION. WE ARE CONSCIOUS OF ALL OF THE NEW BUILDING AND LOAD MANAGEMENT TECHNIQUES AND WE ARE APPLYING THEM AS RAPIDLY AS POSSIBLE. IF WE SAVE THE 12% TO 14% ELECTRICAL DEMAND BY THE YEAR 2000, AS PROPOSED BY THE CENTAUR ASSOCIATES CONSERVATION PROPOSALS, WE STILL NEED THE WARNER VALLEY SYSTEM. THE UPDATE OF OUR FEASIBILITY STUDY COMPLETED FOR US BY BURNS-McDONNELL WHICH RECOGNIZES THE TREND TOWARD ENERGY CONSERVATION POLICIES AND TECHNIQUES SHOWS POWER REQUIREMENTS FOR THE YEAR 2000 AT 123.4 MEGAWATTS. THIS CITY HAS JUST BEGUN TO GROW.

I ADMIT THAT WE ARE NOW AND IN THE FUTURE WILL BE SUBJECTED TO MORE STRINGENT ELECTRICAL AND WATER CONSERVATION MEASURES. BUT AS YET I CANNOT SEE THAT THE TIME HAS COME WHEN I HAVE TO TELL A YOUNG MAN WITH A NEW BRIDE YOU CAN ONLY BUILD A TWO ROOM HOUSE, PLACE A 25 WATT BULB IN EACH ROOM FOR LIGHT AND YOUR LANDSCAPING WILL CONSIST OF ROCKS AND CACTUS PLANTS. LET'S CAREFULLY BUILD AND DEVELOP THE RESOURCES THAT WE HAVE AND NOT BANKRUPT OUR LIVES OR THIS NATION.

SINCERELY,


SHIRL H. PITCHFORTH
CHAIRMAN, UTILITY COMMISSION

SGE Response 2-4

Refer to Letter Response 86-1 for a discussion of this comment.

SGE Response 2-5

Refer to the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS for an updated discussion of power needs by the city of St. George.

SGE Response 2-6

Your view is noted and will be considered in the decision making process.

SGE ③

People in these parts are quite upset with a few plants and animals that threaten to stop progress. The woundfin minnow, a cactus and a poppy, a few turtles, and probably some other humble little unknown desert creatures. Well there's one species that must go! I'm an environmentalist, but this one just has to go. The damn thing eats up everything in its path, serves a useless purpose, and creates a terrible stink. The Warner Valley White Elephant must die.

The many reasons why it should stop far outweigh the one and only motive for its creation - short term economic gain.

Then what?

After the initial construction period, radically inflated real estate prices, and other highly inflated costs of living, what can we expect? An oversaturated market of over-priced poorly built houses. The high wages of power plant construction, long gone, will leave the local economy high & dry. The average local family wage earner will not be able to afford a new home. A few fast bucks up front will cost us all plenty in the long run. I'm surprised the conservative folks of St. George are so anxious to gamble with so much to lose.

The "Other Palms Springs" becomes the "Other San Bernardino." A once beautiful small desert city, with clean air, safe and secure, grew too fast. The air is now unsafe to breathe, the crime rate spiraled, the costs of basic services soared, the incomes grew, as did taxes, insurance, all costs of living. Once good productive farmland is now replaced by tracts of low quality residential boxes. Palm Springs environment you want, take another look. Can't happen here you say. Take a drive above St. George and look down on the valley. All that haze already and without a power plant. Add several thousand tons of fly ash, fugative dust from very rapid development, mix it with exhaust from traffic and heating and you've got it, smog, sweet smell of progress.

St. George gets the big bucks, a piece of the pie and Hurricane, La Verkin, Toquerville, Leeds, Virgin, Rockville, Springdale and Zion Park get the smog. Very thoughtful, nice of St. George to show its neighbors

a willingness to share.

How arrogant and ignorant will we get until we wake up. What gives us the right to permanently destroy what took Nature millions of years to create. It is not at all necessary. A recent report from N.A.S.A. states that solar power will be cost competitive by 1986. Why not attract manufacturers of solar systems to come to the area for a long term economic gain which will benefit the economy and preserve the environment. Long before that power project is out of fuel it will become obsolete, but the damage done in its wake will last many generations.

Growth. You've been so busy you haven't noticed. They're coming here now, the folks who want clean air, security, the climate, and most of all the natural beauty, our greatest asset. The area has a natural guarantee on growth that is clean, beautiful, and long term in economic prosperity. It's a great place to live here in Washington County and well worth keeping it that way.

I commend the B.L.M. on their draft E.I.S. I do disagree with some of their conclusions, as many of us will, but the overall work was thorough and reflects reasonably accurate information.

The opinion of the people most adversely effected by this project, the people who live up wind from the proposed plant site, and the 1.3 million tourists per year who visit Zion National Park overwhelmingly oppose the construction of this project. We strongly urge the Secretary of The Interior to deny the application for the entire Allen-Warner Project. The best alternative is number 5, the development of solar power and increased energy conservation. The next best alternative is no action at all.

Respectfully,

Dale Dockstader
Rockville, Utah

St. George Exhibit 3
Dale Dockstader

SGE Response 3-1

Your comment is noted and will be considered in the decision making process.

STATEMENT FOR PUBLIC HEARINGS
ALLEN-WARNER VALLEY ENERGY SYSTEM

JULY 31, 1980

SCOTT HIRSCHI

MY NAME IS SCOTT HIRSCHI. I AM THE CHAIRMAN OF THE ST. GEORGE PLANNING COMMISSION. I HAVE LIVED IN ST. GEORGE MY ENTIRE LIFE. I AM CONCERNED FOR THE AREA, NOT ONLY AS A PLANNER, BUT AS A PROUD CITIZEN. I FEEL ST. GEORGE IS UNIQUE AS FAR AS SMALL RURAL COMMUNITIES IN THE STATE IN THAT THE CITY HAS ACTIVELY PLANNED FOR ITS GROWTH SINCE THE 1930'S.

THE PLANNING COMMISSION HAS RECENTLY COMPLETED OUR THIRD MASTER PLAN. IN THAT MASTER PLAN WE ADDRESS SUCH THINGS AS ANTICIPATED GROWTH AND NEED FOR INCREASED UTILITIES. WE HAVE FOUND THE POPULATION TO DOUBLE APPROXIMATELY EACH 10 YEARS. NONE OF OUR PROJECTIONS OF POPULATION OR POWER AND WATER REQUIREMENTS AGREE WITH THOSE IN THE ENVIRONMENTAL IMPACT STATEMENT. WE FEEL THEM NOT TO BE REALISTIC AND TO BE BASED ON INCOMPLETE OR INACCURATE DATA. ONE OF THE MAJOR CONCERNS THAT OUR MASTER PLAN EXPRESSES IS THE HEAVY DEPENDANCY WE HAVE ON WATER AND THE LACK OF THE SAME IN THIS AREA. THE ST. GEORGE CITY UTILITY COMMISSION HAS DONE AN EXCELLENT JOB IN PROVIDING FOR OUR WATER NEEDS IN THE PAST AND WE ARE, THEREFORE, FORTUNATE IN HAVING THE CAPACITY TO GROW SOMEWHAT. HOWEVER, ACCORDING TO THE LATEST FIGURES AVAILABLE, IT IS VERY APPARENT THAT OUR PRESENT SYSTEM WILL BE INADEQUATE WITHIN A VERY SHORT NUMBER OF YEARS AND THAT ADDITIONAL SOURCES OF WATER MUST BE FOUND IN ORDER TO SUPPORT THE GROWTH.

St. George Exhibit 4
Scott Hirschi, St. George Planning Commission

SGE Response 4-1
Refer to Letter Response 86-1 for a discussion of the revised population figures in the EIS.

THIS SAME GROWTH PRESENTS PROBLEMS AS TO OUR ELECTRICAL SYSTEM CAPACITY. WE ARE NOW USING MORE POWER THAN IS AVAILABLE FROM OUR PRESENT SOURCE, THAT BEING GLEN CANYON DAM. IT IS IMPERATIVE THAT THE CITY ACQUIRE ADDITIONAL SOURCES FOR ELECTRICAL POWER, SOURCES WHICH WILL BE ECONOMICALLY FEASIBLE AND RELIABLE.

ANOTHER CONCERN THAT WE OFTEN HEAR IN PLANNING COMMISSION FROM INDUSTRY DEVELOPMENT WISHING TO LOCATE IN ST. GEORGE, IS THEIR FEAR OF TROUBLESOME POWER OUTAGES WE EXPERIENCE ON A REGULAR BASIS. WE RELY ON A LONG SERIES OF TRANSMISSION LINES IN ORDER TO CONVEY OUR ELECTRICITY FROM THE DAM TO OUR CITY. IT IS COMMON KNOWLEDGE OF THE PROBLEMS INCURRED, ESPECIALLY DURING LIGHTENING STORMS. I CAN REMEMBER A FEW YEARS BACK WHEN A AIRPLANE RAN INTO THE TRANSMISSION LINE AND WE WERE OUT OF POWER FOR THE BETTER PART OF THE DAY. RECENTLY WE HAD A MANUFACTURER APPROACH THE PLANNING COMMISSION ABOUT LOCATING IN OUR NEW INDUSTRIAL PARK. AS PART OF HIS PLANS, I NOTED A VERY LARGE GENERATOR. WHEN QUESTIONED ABOUT THIS, HE INDICATED THAT HIS MANUFACTURING PROCESS REQUIRED A CONSTANT, RELIABLE POWER SOURCE AND THAT HIS INVESTIGATION INTO THE ST. GEORGE SYSTEM INDICATED THAT WE DID NOT HAVE SUCH. THE ALLEN-WARNER PLANT WOULD GREATLY REDUCE THIS PROBLEM. I FEEL THE ENERGY AND WATER REQUIREMENTS OF ST. GEORGE CITY CAN BEST BE MET, BOTH FROM AN ECONOMICAL AND RELIABILITY STANDPOINT BY THIS PROJECT.

ANOTHER SIGNIFICANT POSITIVE IMPACT OF THE PLANT WOULD BE THE INCREASED TAX BASE THAT IT WOULD CREATE IN THE COUNTY. IT SEEMS TO ME THAT IN THIS DAY OF A MULTITUDE OF LAWS PROTECTING THE ENVIRONMENT THAT WE COULD BE GUARANTEED THAT THE ENVIRONMENT AND THE QUALITY OF LIFE WOULD NOT BE HARMED, BUT RATHER SUBSTANTIALLY

SGE Response 4-2
Refer to the revised text for water supply requirement projects in table 6 of Appendix 11 and the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS for a discussion of the topic of your comment.

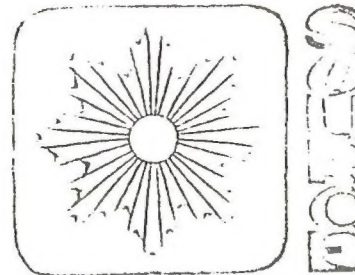
IMPROVED BY THIS PROJECT. HOWEVER, THE REVERSE COULD VERY WELL BE TRUE IF THE CITY IS NOT ABLE TO ACQUIRE ADEQUATE ELECTRICAL AND WATER DEVELOPMENT.

SGE Response 4-3

Your views are noted and will be considered in the decision making process. St. George has to date approximately 45 MW of electrical generating capacity. The peak demand reached by St. George to date was 32 MW.

SGE Response 4-4

Refer to the Socioeconomic section under Alternative 1 of Chapter 4 in the final EIS for a discussion of this comment.



SGE 5

SOUTHERN UTAH RESIDENTS CONCERNED
ABOUT THE ENVIRONMENT

Cedar City
P.O. Box 1453
84720

P.O. Box 29
Pine Valley, Utah
84722

July 31, 1980

TESTIMONY FOR THE PUBLIC HEARING ON THE DRAFT EIS
FOR THE ALLEN-WARNER VALLEY ENERGY SYSTEM

We would like to highly commend the BLM for the excellent job they have done on the EIS. There are two things about this draft EIS which are unique: 1) it includes Alternative #5, Conservation and Alternate Energy Sources, and 2) the BLM did not identify an Agency Preferred Alternative. We believe the decision not to identify the BLM Preferred Alternative was correct, not only because of the coal unsuitability petition, but also because so much of the data is incomplete at this time. However, because of this, the public is denied the opportunity to comment on the BLM selection at the draft EIS stage. Therefore, we believe it is essential for the BLM to announce their criteria for selection of the Agency Preferred Alternative, and to allow public comment prior to completion of the final EIS.

95% of the Allen-Warner Valley power that would be produced is not intended for Utah or St. George. One quarter of the production of the Warner Valley plant (125 MW) would be available for Utah. I would like to quote from page 1-3 of the EIS: "BLM assessments indicates that the city of St. George would not "need" the 125 MW capacity that would be available from the proposed Allen-Warner Energy System in 1990. This is based on the city's own projection of additional energy need of only 43.7 MW and the continuation of existing power supply contracts with UP & L. According to UP & L, it would meet the energy needs of its customers in amounts specified in the contract." The Allen-Warner Valley is probably the most expensive western power project as yet proposed per KW produced. There would be little advantage for Utahns to purchase any of its power where alternatives are assured. The EIS discusses the several alternative electric power sources available to Washington County on pages 4-151, and I quote: "the 2nd option would involve the purchase of all its needs from UP & L, assuming continuing purchase of present allocation from the Colorado River Storage Project." "Although all power has tentatively been allocated, there exists the possibility that lay-off power will be available for purchase from several members of the Intermountain Power Agency which operates the 3,000 MW IPP plant. It may be feasible for St. George to initiate a program of conservation and alternative energy sources development.

St. George Exhibit 5
Southern Utah Residents Concerned About the Environment

SGE Response 5-1

The concerns in this comment are addressed in Letter Response 63-2.

2 To quote page 3-33, "The following projected levels of electrical energy consumption for the years 1980 to 2000 for the St. George service area, are based upon the assumptions that per capita consumption would remain constant over the 20 year period and that changes in the consumption of electricity would be proportioned to changes in the populations of the area." Some of the population, about 15%, is not year-round, and this was not taken into consideration in the estimates.

476 A bonus of the Allen-Warner Project for Southwestern Utah, is said to be the related Warner Valley Water Project. The Water Project is related because the Warner Valley Power Plant would require 6,000 to 10,000 acre feet per year from the reservoir for cooling. The EIS on pages 4-29 to 4-32, lists some of the characteristics of the diversion and the reservoir. According to the EIS, the water would be no good for drinking. To meet the Utah health standards, it would require full treatment -- flocculation, sedimentation, filtration and disinfection. The reservoir would be no good for fishing -- as water temperature and dissolved oxygen limits even for warm water fish would occasionally be exceeded. The reservoir would be no good for boating or recreation bores because "based on the computer simulation, the storage in the reservoir would fall below 20,000 acre feet about 5 out of every 35 years. Storage would fall below 10,000 acre feet about one out of every 35 years." Therefore, 5 times out of every 35 years, the reservoir would be down to half its surface area with a 60' drawdown and approximately 425 acres of mudflats would surround it. This would be unpleasant for swimmers, would leave docks high and dry, and destroy fish spawning habitat. Thus the EIS indicates the Water Project would be good for cooling the Warner Valley Plant, and little else.

Water is not needed for the Washington County Water Conservancy District until after the year 2000 because of the recently completed Snow Canyon project. By the year 2020, there would be a deficit in only one of the towns of the district as shown by the Centaur study. It also appears unlikely that the amount of water proposed by the Conservancy District from the Water Project could be realized due to fluctuations in precipitation, the requirements of the power plant and supplemental irrigation needs. To the best of our knowledge, there has never been any effort at conservation of water in the District.

St. George is in an ideal position to implement conservation programs and alternate energy sources. A variety of technologies for cutting consumption of electricity are mentioned in the EIS. Many of these could be employed quickly and with little cost to users. The primary efficiency opportunities would be, according to the EIS:

1) Improving existing levels of insulation which could be implemented quickly and with only low to moderate costs to users, and 2) Conversion to more efficient energy devices such as evaporative cooling, heat pump systems, more efficient appliances and lower wattage/more efficient lighting. Solar energy would be the most practical alternative energy system for St. George to apply. Sun is the one thing which St. George has the most of. Solar water heating and both passive and active solar space heating could

SGE Response 5-2

The analysis assumes full residency because the utility must be capable of providing service to the maximum level of demand (or peak demand). During that period of the year when part time residents are elsewhere, the excess capacity would probably be laid off.

in time, be encouraged with proper tax incentives. Conservation efforts could prove most worthwhile to southern Utah residents especially in view of the rising energy costs. At present, as stated on page 3-38, "St. George City Utilities does not have a formalized energy conservation program for its customers. Periodic addresses are made each year by a utility spokesman to various citizen groups, local schools, etc, advising them on ways to conserve energy. However, such programs as energy audits, formal information/education, material development, etc. have not been made available." These methods have been effective in reducing per capita consumption in other parts of the country, so that the projections of power need based on increased population and instant use/capita, especially with increased power costs, are not realistic and grossly overestimate the amount of electrical power that will be used.

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3 It appears that little thought has been given to the effects of the Allen-Warner Valley Energy System on tourism in southern Utah. Bryce Canyon National Park will be subjected to visual impairments from the Alton strip mine, and perhaps destruction of its unique and fragile spires and pinnacles due to blasting or even the corrosive effect of acid rain. The Warner Valley power plant would provide a haze over Zion National Park, particularly during the summer months. Scenic vistas from Zion would be heavily impacted. This would deter the movie industry from using this area in the future. The Harry Allen Plant would not only cover the Dry Lake area with smog, and add to the Las Vegas smog, but, when conditions are right, would fill up the Virgin Gorge, and spill over into Utah, creating another tourist attraction. A come-on used to encourage visitation to the area is the mention of Southwestern Utah's clean air. The place where "Utah's sun spends the winter" is likely to become an obsolete quotation. Utah's sun may still spend the winter in Southwestern Utah, but tourists will be lucky to see its smiling face. The plume from the Warner Valley plant will extend upwind toward Zion during the summer and lie over St. George in the winter. Other euphemisms such as "A year-round place in the sun" and "the other Palm Springs" may fall into disuse. Californians may prefer to stay home in their own dismal air rather than waste gas travelling to Southwestern Utah's murky vapor.

Southern Utahns are rightly proud of the quality of living in their area, and encourage Californians and the people of Salt Lake City to spend the winter here. People from both these areas come here to get away from the smog, and not back into it. We believe the costs to tourism and retirement living far outweigh the benefits of the AWVES to the city of St. George. The final EIS should address the cost effects detrimental to retirement and tourism.

In conclusion, SOURCES supports Alternative #5, which would save more foreign oil and would be in the best interests of the people of Southwestern Utah. It would also be in the best interest of the people of Nevada and California.

Patricia M. Heidenreich
Patricia M. Heidenreich
Iron Count Co-ordinator
Cedar City, Utah

SGE Response 5-3

A discussion on impacts to tourism is included in the Recreation and Aesthetics sections in Chapter 4 of the final EIS to reflect your comment.

Salt Lake City Public Hearing

SPEAKER

1. John Arlidge*, Nevada Power Company
2. Glenn J. Bjorklund, Southern California Edison
3. Patrick H. Vidal*, Pacific Gas and Electric
4. David Mastbaum*, Environmental Defense Fund
5. Timothy C. Spangler*, North American Weather Consultants
6. Jack Spence*, Sierra Club
7. F. Hunter Weiler*, California Public Utilities Commission
8. Frank Little
9. John Ferrell, Utah International Inc.
10. Jay Bingham, Bingham Engineering
11. Dennis Strong*, Utah Division of Water Resources
12. Rudger M. McArthur*
13. Dale E. Bingham
14. Michael Budig
15. Gordon Anderson, Friends of the Earth
16. Roy S. Buus, Washington County

1. John Arlidge, Salt Lake City Testimony

Refer to Salt Lake City Exhibit 1.

2. Glen J. Bjorklund, Salt Lake City Testimony

SLCT Comment 2-1

In reviewing our resource plan for the decade in the 80s, I can see, categorically, that we need our proposed share of the Allen-Warner Valley energy system. The Edison and California Energy Commission recognizes that we, Southern California Edison, need over 6,000 megawatts in the decade of the 80s to meet the additional capacity requirements. Our resources, in the first part of the 80s, will be primarily nuclear through 1985. Through 1985 we will have both the Onofre San and Oquirre and our share of the Palo Verde Nuclear Station as a major resource. In the last half of the decade of the 80s, in addition to the beginning of the emergence of the alternate technologies, the Harry Allen-Warner Valley project is the only basic resource that we have to meet the needs of our customers.

The California Energy Commission, in their resolution dated May 21st of this year have indicated that Edison does, in fact, need at least, our share, of the 1,045 megawatts that we are planning on from the system. Without that, our reserves would drop dangerously low during that time frame.

SLCT Response 2-1

Your comment is noted and will be considered in the decision making process. Refer to the discussion of energy needs as shown in the Purpose and Need of Proposed Project section of Chapter 1; the Existing and Projected Electrical Energy Resources Section of Chapter 3; and the discussion of Alternative 6 in chapter 4 in the final EIS.

SLCT Comment 2-2

In addition to the need as it would relate to both our growth rate and economic development of our service territory, this project is so important to both our effort and the national effort to reduce our dependence on imported oil, low sulfur oil. There is no utility in the country that is so dependent upon imported oil. We use 50 million barrels a year of this valuable commodity. It is our objective as well as the objective of the State of California to do everything we can to reduce our dependence and certainly this project meets that goal.

Over 10 years ago we embarked upon our project independent and in that period of time we developed our use of foreign oil. This project could reduce our dependence on oil by 25 million barrels annually, 10 million barrels which would be in Edison's system.

So we feel this project is both consistent with our company's program of reducing -- the State of California's program of reducing oil and, more important, our national interest to do that. Also, very importantly, is this project over a 35 year period is one of the most economic options available to the rate payers in California. The project would reduce imported oil by over 750 million dollars based on current prices.

SLCT Response 2-2

These concerns about oil displacement are addressed in the revised Purpose and Need of Proposed Project section in Chapter 1 of the final EIS.

3. Patrick H. Vidal, Salt Lake City Testimony

Refer to Salt Lake City Exhibit 2.

4. David Mastbaum, Salt Lake City Testimony

Refer to Salt Lake City Exhibit 3.

5. Timothy C. Spangler, Salt Lake City Testimony

Refer to St. George Exhibit 1 for this testimony and Letter Response 88-115 for a discussion of comments from this exhibit.

6. Jack Spence, Salt Lake City Testimony

Refer to Salt Lake City Exhibit 4.

7. F. Hunter Weiler, Salt Lake City Testimony

Refer to Salt Lake City Exhibit 5.

8. Frank Little, Salt Lake City Testimony

SLCT Comment 8-1

There are some relevant documents that have been produced by the USGS. There are summaries in there in an open file on record by Bob Cordova of the USGS office here, and they describe and go into the problem of pumping enough water from the Navajo Sandstone aquifer and it goes into scales of how much water is going to be pumped out and what effect that will have on overlying and underlying aquifers. These, I believe, are mentioned in your EIS, and I can't see why that is not a stopper. I can't see why, on that basis, the project isn't abandoned or looked elsewhere. The problems of pulling 50 segment feet of water out of a concentrated area around Bald Cove, from 18 to 168 wells, we haven't got an idea which, isn't a problem that seems to be of any other solution than that Kane County will dry up. The Kanab aquifer and Johnson Canyon, all these scenic areas, the Virgin River aquifer and part of Kane County.

There have been some estimates on the amount of time it would take these impacts of pumping water out of the Navajo Sandstone and underlying aquifers to affect locals and it happens to be somewhat the concept of this power project to get Kane County dried up. The power project will be pulling out of wells and we will have a real nice mess on our hands.

SLCT Response 8-1

Your comment is noted and will be considered in the decision making process. Additional studies have been recently completed concerning the pumping of water in the Alton coal lease area, and are included in the final EIS. See the Ground Water Pumping for Coal Slurry section under Alternative 1 in Chapter 4 of the final EIS for this updated information.

SLCT Comment 8-2

There are certainly other issues in this power project, some of my invested interests involve the tourist industry and so on and the recent tests by the Interior Secretaries and so on have visited Bryce Canyon National Park to look at the mine site from that point. There are set offs and explosions could be heard clearly from the park due to the high altitude and certainly that should be a valid concern.

SLCT Response 8-2

For a discussion on tourism and the analysis of additional blasting effects on Bryce Canyon National Park see the revised Recreation and Aesthetics sections in Chapter 4 of the final EIS.

9. John Ferrell, Salt Lake City Testimony

SLCT Comment 9-1

We view the Allen-Warner Valley energy system as a very important project, both for the southwest states and for the nation. It is a domestic coal source power generating project, which will use our country's coal to replace foreign oil in line with President Carter's state of energy goals.

This project will produce an annual equivalent of 25 to 30 million barrels of oil, which will be a savings of foreign oil payments of over \$1 million per year.

SLCT Response 9-1

Refer to the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS for a discussion of oil displacement.

SLCT Comment 9-2

I want to now talk about the issues concerning Bryce Canyon National Park; blasting, visual impact, and air quality. With respect to blasting, there are some independent studies which are being conducted by the Park Service and by the Office of Surface Mining. We believe that the result of this study will confirm our own calculations which show that our blasting activities will in no way harm any of the delicate features of the park. We are looking forward to the application of that work.

SLCT Response 9-2

Refer to Letter Response 22-16 for a discussion of this topic.

SLCT Comment 9-3

With respect to air quality, we have sponsored a study to provide the effects of mining operations. A second independent study is being conducted under the auspices of a multi-agency group. Based on our experience in air quality matters at our other operating mines, we believe that visibility will not be impaired and that the visitor's experience at the park will not be lessened.

SLCT Response 9-3

Refer to Letter Response 22-7 for a discussion of this topic.

SLCT Comment 9-4

Allegations have also been made concerning reclaimability of the Alton coal field. The result of this work indicates reclaimed land will be far more active and useful than in its present state. The pinyon juniper fields that cover much of the area has expanded its distribution over the last 100 years as a result of overgrazing of the natural shrubs and grasses and the exclusion of fire. The pinyon juniper has simply taken over this land and because it emits a particular toxic substance and because of its shallow root system, little grass or under-storage to feed livestock or wildlife can be seen to grow where the pinyon juniper exists.

SLCT Response 9-4

As stated under Standard Operating Procedures (Appendix 6 in the final EIS) all disturbed areas in the Alton coal lease area must be revegetated. A disturbance such as strip mining would reduce the usability of the area for some resources (e.g., recreation, VRM, and ORV) while increasing its use for others (e.g., livestock grazing, wildlife).

SLCT Comment 9-5

Regarding the socioeconomic issue, Utah International has developed mining operations in areas with small population many times in the past and in each case our access has been closely correlated with local people so as to change their lives as little as possible. The Alton coal mine will bring jobs and a beneficial development to the area in which the people want to progress, and we look forward to working with them to reach this goal.

SLCT Response 9-5

While project proponents may endeavor to generate as small an impact as possible on affected communities, the analysis indicates that very significant changes would occur in the socioeconomic structures of Kane and Washington counties. For details, refer to the Socioeconomic sections for Alternatives 1, 2, and 3 in Chapter 4 of the final EIS.

SLCT Comment 9-6

One final point, this pipeline cost will be in excess of \$1 million. No one can afford to risk that magnitude of money very lightly. For this reason alone, we, as a commercial enterprise, and the utilities, as well, must be content that the Navajo Sandstone can provide the water which is needed for the project. We would be in dire straights, indeed, were we to put in a pipeline and then find insufficient water quantity to last the life of the project. We accept that the project's water requirements are subordinated to the requirements of the people of Kanab and surrounding areas. Any business today which wishes to stay in business must be a good corporate citizen in the county in which it operates. We fully understand that we have an equal responsibility to the people of Southern Utah and the protection of their water rights and we certainly intend to honor that responsibility.

SLCT Response 9-6

Your comment is noted and will be considered in the decision making process.

10. Jay Bingham, Salt Lake City Testimony

SLCT Comment 10-1

The surface water is isolated and separate from the water deeper in the Navajo Sandstone. The removal of water from the Navajo Sandstone, in my professional judgement, will have no adverse effect on existing supplies. If it should be, and there is a very easy way of determining that, that would have to be released or the operations curtailed. The immensity of water stored in the resource is little under the Navajo Sandstone. That area is, approximately, 2,000 feet thick at the area of the mining operations. At the beginning of the slurry pipeline, approximately, 1,600 feet of that 2,000 feet thickness is saturated. Dr. Goode's pioneering work has been charted and test wells have been drilled confirming that there is, in fact, that depth of water in the sandstone; that it has the porosity that had been earlier predicted and that the quality is superior to the surface supply immediately above it. There can be no question of intermingling because they are separate and distinct.

SLCT Response 10-1

Refer to the Ground Water Pumping for Coal Slurry section under Alternative 1 in Chapter 4 of the final EIS for a discussion of the comment.

11. Dennis Strong, Salt Lake City Testimony

Refer to Letter 123 for comments from the Utah Division of Water Resources.

12. Rudger McArthur, Salt Lake City Testimony

Refer to Letter 86 and the responses to this letter.

13. Dale E. Bingham, Salt Lake City Testimony

SLCT Comment 13-1

I support this project because not only will the primary manufacturers of the required equipment benefit, but also, the suppliers and manufacturers of the equipment and services for the auxiliary requirements of this project. I cite as an example, U. S. Steel Corporation. They are located in Geneva, Utah and supply something like 5,000 residents. This facility could conceivably benefit greatly from this project. Of no lesser importance to the business community is the fact that the suppliers and manufacturers of auxiliary equipment to U.S. Steel could benefit.

SLCT Response 13-1

Your comment is noted and will be considered in the decision making process. These concerns are addressed in the Socioeconomics analysis under Indirect Income and Employment in Chapter 4 of the final EIS.

14. Michael Budig, Salt Lake City Testimony

SLCT Comment 14-1

I don't believe there is yet a proven need for this power in order to accommodate growth in southern Utah. Most of the power for the proposed Warner Valley project will be exported from Utah, which is an indication that a project of this size is not justified by the needs of southern Utah.

SLCT Response 14-1

Your comment is noted and will be considered in the decision making process.

SLCT Comment 14-2

In the creation of the Bryce Canyon National Park, Congress declared that preservation of this area was in the national interest. To create a large mining operation in view of one of the most popular overlook places is to make a travesty creation of this park. The representatives of the southern California utilities complain that to scare down this project would cost their ratepayers money. They also claim that alternative energy resources are an improvement technology and a risk to their taxpayers. Yet, they would have us sacrifice air, water and scenic beauty of the two greatest national parks in order to protect them from taking these risks. There is no gamble involved here. The damage to these parks will be devastating and would be rather irrevocable.

SLCT Response 14-2

Refer to Letter Response 37-2 and the revised Recreation and Aesthetics sections in Chapter 4 of the final EIS for a discussion of these concerns.

15. Gordon Anderson, Salt Lake City Testimony

SLCT Comment 15-1

The Alton mine would be located within 3 to 5 miles of the Yovimpa Point, which is usually recognized as Bryce Canyon's most scenic panoramic overlook. Yovimpa Point may be at the extreme end of the park, but it is also unique in that it looks over out to the south and to the east whereas none of the other overlooks do. From Yovimpa Point, geologists in the last century have studied the grand staircase where you can see terraces leading all the way down into the Grand Canyon. We feel this is one important overlook in Bryce Canyon National Park, and we intend to protect it from strip mining places directly below and in front of this overlook. We feel they are definitely going to be highly visible and highly audible. More than 300,000 annual park visitors come to Yovimpa Point and there is no way we are going to be getting away from the strip mining operation being part of a visitor's park experience. You can't hide that mine, you are going to see it. If you go out to Promontory Point you may be able to see more. Also, particular emissions from the Alton strip mine could violate Class I air standards of Bryce Canyon National Park and significantly reduce the visual range in the park. As you know, we estimate in the unsuitability petition that the visibility range might be reduced as much as 67 percent due to the operation of the strip mine over Yovimpa Point. That is a reduction in visual range from existing over 134 miles to just 44 miles; that is hardly into Arizona. Sometimes that dust plume from strip mine operations could also limit the range from Yovimpa Point to less than 4 miles, and you wouldn't be able to see through the plume.

SLCT Response 15-1

Your comment is noted and will be considered in the decision making process. For an analysis of the effects of mining the Alton coal lease area on Bryce Canyon National Park see the Air Quality and Recreation and Aesthetics sections in Chapter 4 of the final EIS.

SLCT Comment 15-2

We believe the North American Weather Consultant's data was once again, only a week-long study. Everybody that lives down there was very upset about the fact that the weather was turbulent that week and not indicative of the kind of weather that we have in southern Utah, and it irks me to have any kind of a specialist come down to southern Utah and spend a week and consider himself to be an air quality expert. You have to spend some time in the area and it takes more than a week; at least a year. Studies should be going on right now; why did that stop? Why do they only do it for a week? I think they could, first of all, the Park Service should make the decision on whether or not air quality of Zion National Park is affected by a plant and not by some consultant hired by the industry.

SLCT Response 15-2

NPS did its independent evaluation of air quality impacts of Zion National Park and their results are under the Air Quality section in Chapter 4 of the final EIS. With regard to the North American Weather Consultant tracer studies, see Letter Response 88-115.

SLCT Comment 15-3

Now, we believe that Plan 2, withdrawal of 907,000 acre feet per year simply transported as a medium for coal is not only unethical, it is unthinkable. I would like to point out we are very concerned about well applications that are on file in the Utah State Water Engineering Office. 168 wells, whatever it is, 7 or 8, whatever, different lease areas. The draft environmental impact statement must discuss this. It is not just involved in all we are talking about, they have lease areas all over that area. Some of those lease areas are very close to the existing wells of the city of Kanab and it seems to me that it is only logical that from a company's standpoint, if they don't find the water they want in Bald Cove they are going to move to other lease areas. We can't just place the coming depression and Bald Cove and see what is going to happen. As long as there are other lease applications on file, we have got to take a look at where this water is going to come from, how it is going to impact the citizens.

SLCT Response 15-3

Refer to Kanab Exhibit Response 2-2 for a discussion of the well applications.

SLCT Comment 15-4

We are disturbed, Utah International has waited until the 11th hour to sink this test well, once again in Bald Cove, an area with observation wells to see what kind of impact the company will have. We believe that, as the EIS points out, there needs to be an accurate determination of the extent of the water table drawdown, a long-term pumping test in observation wells would have to be conducted and the burden of proof is placed on Utah International to show its proposed ground water withdrawals would not affect existing aquifer users.

SLCT Response 15-4

New information concerning your comment is included in the Ground Water Pumping for Coal Slurry section under Alternative 1 in Chapter 4 of the final EIS.

16. Roy S. Buus, Salt Lake City Testimony

SLCT Comment 16-1

Therefore, I think, that the study that they have put into it and the amount of money they have to spend in developing the project has convinced them that it is valid, it will meet the requirements for this kind of plan. Therefore, it is worth promoting. You make a statement that only alternate sources are available. If they were, indeed, available, that would certainly be an easy route for them to follow, but, apparently, they aren't available, or they would follow that route. This appears to them and there again, I stress the point that their lives and their corporation's lives depend on their making the right decision. I think they have put enough study into it to be sure they are right.

SLCT Response 16-1

Your comment is noted and will be considered in the decision making process.

SLCE①

STATEMENT FOR PUBLIC HEARINGS
ALLEN-WARNER VALLEY ENERGY SYSTEM
ENVIRONMENTAL IMPACT STATEMENT DRAFT
June 23, 1980

TESTIMONY - SALT LAKE CITY, UTAH

My name is John Arlidge. I represent Nevada Power Company. Nevada Power Company is the project manager on the Allen-Warner Valley Energy System.

This is the last of five public hearings held on the Allen-Warner Valley Energy System Draft Environmental Impact Statement. In the previous hearings there has been much discussion of local concerns over transmission line siting, power plant siting and the effects on communities in Southern Utah and Southern Nevada.

Three major concerns have been the subject of most of the comments at these meetings. First, the growth of the areas and the need for more electric power to provide for such growth; second, possible degradation of air quality; and, third, possible interference with water rights. I shall comment on these concerns in reverse order.

Several ranchers in the Johnson Canyon area of Southern Utah voiced their genuine concern regarding the possible impact of the Alton Coal Mine Project on their water supplies. Mr. Little and others feel that the evidence is not sufficient to prove that the water development in the Alton Coalfield would not interfere with his water rights. Mrs. Lippincott stated that this land is an area of little rain with an average of 18" or less annual rainfall. We understand those concerns.

The Southern Nevada area has an average annual rainfall of 3-1/2" or less. I personally have property in Southern Utah and know the problems of water development in the area.

1 The utilities in this project believe the Alton Coalfield is a unique coal resource that can and should be developed. The project, however, has made clear its position on this concern of water development in Kane County many times. Before any construction of the power plants can begin, the utilities must have definitive proof that water will be available in accordance with State law and without interference of water use established prior to construction of this project. As I have told Mr. Little personally many times, proof required by the utilities on water availability will probably be much more stringent than he himself would require.

2 The possible degradation of air quality due to the Warner Valley Station has brought considerable comment. To assure that the Warner Valley plant and the Harry Allen Station will not disturb the air quality in the surrounding area, the participating utilities have specified the following: (1) coal will be washed to remove a portion of the ash and sulfur content before the coal enters the boiler, (2) the boiler will be designed for the minimum NO_x emission standards set by law and equipment will assure removal of approximately 92% of the sulfur and 99.8% of the ash entering the boiler.

3 There will be emissions from the plant. However, with the boiler design reducing nitric oxide and the particulate and sulfur removal

4 systems which have been specified, the impacts suggested within the Draft Impact Statement and those suggested during the earlier public meetings will not occur. The photographs within the Statement, supposedly identifying potential visibility impacts of the Warner Valley Plant on Zion National Park, are simply simulated photographs without any basis or support as we have pointed out in the previous hearings.

The utility participants have had a number of independent consultants perform a number of studies on potential air quality impacts of the two power plants, as has the Bureau of Land Management.

Representatives of the National Park Service, Environmental Protection Agency and the State of Utah and State of Nevada have been invited and have participated in the design, performance and review of these studies. For Warner Valley alone, we have over two years of background air quality information and five years of meteorological information, all of which has been submitted to the regulatory

5 agencies for review. The State of Utah Bureau of Air Quality has done its own independent review of the Warner Station and has found it not to exceed any existing regulatory requirement of the federal government.

6 Finally, there has been much said about the need for energy from the Allen-Warner Valley Energy System. Ultimately, 90% of the energy from this project will stay in the Southern Utah, Southern Nevada area. The benefits to the Southern Utah, Southern Nevada area are many. In addition to providing a needed electric power supply construction of

Salt Lake City Exhibit 1

John Arlidge, Nevada Power Company

SLCE Response 1-1
Refer to Victorville Exhibit Response 1-7.

SLCE Response 1-2
The above specifications are included in the air quality analysis and are presented in Chapter 4 of the final EIS. However, potential Class I and Class II violations as well as possible visibility deterioration are indicated by the analysis.

SLCE Response 1-3
The analysis presented in the Air Quality section of Chapter 4 in the final EIS takes into account company-committed design and pollution control measures.

SLCE Response 1-4
The visibility simulations in the Air Quality section under Alternative 1 in Chapter 4 of the final EIS are revised to reflect your comments.

SLCE Response 1-5
This result is indicated in table 4-4 of Chapter 4 in the final EIS. Results of air quality modeling for the proposed Warner Valley powerplant indicate that there would be air quality violations in the Class I area of Zion National Park and the Class II area at Sand Mountain with the operation of the powerplant. See the discussion in the Air Quality section of Chapter 4 in the final EIS.

SLCE Response 1-6
Your comment is noted and will be considered in the decision making process.

the Energy System as proposed will provide a direct power interconnection between Southern Utah and Nevada, something which has been needed for many years. As a further benefit, the Southern Utah area will be interconnected electrically for reliability to the major power utilities in the Southwest United States. Again, this is something that has been needed for many years.

The need for water development in Washington County will have to be provided by the residents of that County. The need for power in California will have to be provided by the Californian's. The need for power in Southern Nevada is large. The Nevada Power Company area customer percentage growth has been the largest in the United States for four out of the last six years. The two years that it was not number one it was number two. Industries have been moving into the Southwest. Senior citizens want to retire into areas where they do not have to worry about the cold damp winter weather. We see no change in this pattern for the immediate future. This same growth has been quite evident in Southern Utah. Thus both Southern Utah and Southern Nevada must prepare for that growth.

Other issues and concerns were voiced during the previous public hearings, however, the above are the ones which we wanted to comment on tonight. We will certainly provide written comment on the Draft Statement and each of the items presented during the public hearings. Thank you for the opportunity to comment.

/ab

PGandE Statement on Need
for the
Allen-Warner Valley Energy System
BLM Draft EIS Public Hearing
August 5, 1980
Salt Lake City, Utah

Patrick H. Vidal

PGandE has been invited to participate in the Allen-Warner Valley Energy System (AWVES) for an initial entitlement share of 1,045 MW. The Bureau of Land Management (BLM), in order to address our need for this participation share in its Environmental Impact Statement (EIS), has asked California's two primary energy regulatory agencies - the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC) - for their opinions. The bulk of the Draft EIS' discussion on PGandE's need is based on the position of the CEC and, therefore, we would like to comment on that here.

The Energy Commission's position, as described in the Draft EIS, is that PGandE needs only 498 MW of its proposed share in AWVES. The Commission suggests that the balance of our need could be supplied with alternate energy technologies.

PGandE first would like to point out to the BLM that by law, the CPUC, not the CEC, is to determine PGandE's need for this project. The CEC has no authority to dictate what projects should or should not be included in our resource program. The CEC has only the authority to forecast the capacity and energy demands which we must serve with our resource plans. It makes these forecasts in its Biennial Report. The CPUC has ruled that it "will be bound...by the Energy Commission's Biennial Report...as to forecast of electrical load and sales but not as to resource planning or need for the [AWVES] to meet the forecasted demand."

The CEC's most recent Biennial Report forecasts that PGandE will need a total of 7,011 MW of new capacity and associated energy to meet our customers' demands between now and 1991. This forecast takes into account what the CEC predicts will result from conservation and load management, as well as from increased load growth, plant retirements, and terminating power purchase contracts. It also takes into account the CEC's adopted goal to reduce our current oil and gas use by 50% by 1990 to compliment a similar federal goal.

We would like to point out that the CEC position described in the Draft EIS does not allow us to meet their own oil and gas reduction goal. Oil and natural gas currently make up nearly 50% of PGandE's available generating capacity today. None of our

Salt Lake City Exhibit 2

Patrick H. Vidal, Pacific Gas and Electric

SLCE Response 2-1

Refer to Letter Response 88-4 and the discussion of energy needs in the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS for a discussion of this comment.

existing resources are fueled by coal. We have testified during recent CPUC hearings on this project that, in conjunction with planned oil and gas-fired cogeneration projects and other planned alternate resource supplies, even our full share of AWWES is insufficient for our system to meet this 50% reduction goal. We are planning another coal project to be built in northern California to help us more closely reduce our oil and gas consumption by 5%.

The CEC has stated in its Biennial Report that California needs to develop up to 5,000 MW of new coal-fired generating capacity within the next 10 years to meet its adopted demand forecasts. PGandE's proposed share of AWWES represents northern and central California's earliest and most economic possible contribution towards this goal.

We request that the Draft EIS indicate that any reduction of our proposed participation in this project will result in unnecessary costs to our ratepayers, as well as unnecessary oil consumption. This most definitely conflicts with national economic and energy goals. The Draft EIS now suggests that our proposed share be reduced by 547 MW. PGandE estimates this reduction will cost our customers about \$230 million more than necessary each year by having to otherwise supply that capacity and associated energy with oil. (This cost is in 1986 levelized dollars.) The recommended reduction is equivalent to having to burn about 5 million more barrels of oil than necessary each year.

The staff of the CPUC has indicated to the BLM that the capacity and energy represented by PGandE's proposed share in AWWES are needed to displace oil. The Draft EIS appropriately makes reference to this fact. We would like to point out the CPUC staff has reconfirmed this position in its recently issued Draft EIR. They state that "there is probably a need for the capacity represented by the project to displace oil as a utility fuel and that, depending on the extent to which other proposed energy sources actually become available, the capacity represented by the project may be needed to maintain system reliability."

We have testified that, considering the uncertainty about other resources planned, we do believe the project is needed for reliability. The CEC's projected new capacity needs for our service area will give us a reserve margin of only 17.7% when compared to their forecasted peak load for 1991. Normally, reserve margins of greater than 20% are considered prudent for reliable service. And the Energy Commission's own Biennial Report indicates that, on a statewide basis, reserve margins of approximately 30% are needed by 1990 to achieve their 50% oil and gas reduction goal.

We would now like to comment on the Draft EIS' Alternative 5 which suggests that we can replace this project with conservation

and alternate energy sources. We request that the EIS make reference to the following statements taken from the Energy Commission's Biennial Report, and which address the Commission's recommended energy strategy giving preference also to these alternate sources:

"The Commission admits that its proposed energy strategy is neither certain nor easy..." [p. 2]

"Our proposed strategy will require...some risk-taking..." [p. 9]

"...there are unanswered questions about [these alternatives'] cost and technical feasibility..." [p. 11]

To present the whole picture on Alternative 5, we believe the Final EIS should note some of the existing uncertainties of conservation and these alternate sources. These uncertainties make it not prudent to plan totally on these sources to meet forecasted demands.

1. Conservation, load management, cogeneration and biomass projects require the cooperation of others besides a utility or its regulatory agencies. Even with financial and regulatory incentives now being offered by us, interest by these other parties often has not been as favorable as one might expect. And their future interest and cooperation remain uncertain.
2. Restrictions of the federal government's Powerplant and Industrial Fuel Use Act may severely limit the amount of cogeneration which might be planned. Under the Fuel Use Act, no new natural gas-burning facilities can be built now, nor can natural gas be burned in existing facilities after 1990. Also, oil use by 1990 cannot exceed current levels. But a great deal of cogeneration requires the use of oil or natural gas and, in fact, will increase their use from current levels. These sources, therefore, will not comply with the Fuel Use Act. PGandE is asking the federal government to exempt cogeneration facilities from the Fuel Use Act, but whether the government will remains uncertain.
3. With respect to wind generation, demonstration projects first must prove the technical and economic feasibility of this resource developed on a large scale. Until then, it is not prudent to count too heavily on this resource. And by its very nature, wind generation cannot be expected to provide much firm capacity.
4. Steam geothermal generation is dependent upon the purchase of steam from suppliers and their exploration to locate that steam. The availability of steam supplies which have not yet been located and tapped remains uncertain. Hot water

SLCE Response 2-2

The discussion of energy needs in the Purpose and Need of Proposed Project section in Chapter 1 of the final EIS includes this updated information from the draft CPUC EIR.

SLCE Response 2-3

The Purpose and Need for Proposed Project section under Chapter 1 of the final EIS contains a discussion of your concern.

geothermal has yet to be proven commercially feasible on a large scale in the U.S. and, therefore, also is uncertain.

5. Many of our future hydro resources are planned to be purchased from other parties and therefore will require their interest to develop and sell these supplies. The schedules of these sources are subject to these other parties' planning needs, which we cannot control.

Finally, we would like to point out that many alternate energy sources will be no less expensive than oil. Federal and state-adopted incentive programs require that we purchase power from cogeneration, wind, and hydro developers at our avoided cost which, for us, is strongly related to the price of oil. Therefore, these alternate resources are not as economic as coal, since coal is cheaper than oil, and thus they are not as economic as the AWVES.

In conclusion, PGandE believes that the Allen-Warner Valley Energy System, in its entirety, is needed by us and is in the best interest of state, regional, and national goals. It will provide an economic and reliable source of electricity for ratepayers. It will reduce the use of foreign oil and inflation of electricity prices. It will finance the development of a water supply which will be used primarily to serve domestic and agricultural needs in the St. George area. It will provide employment and a strong tax base for local California, Nevada and Utah communities. The need for all these benefits, especially today, justifies the Energy System as proposed.

SLCE Response 2-4

Refer to Letter Responses 88-72 and 88-77 concerning this comment.

SLCE Response 2-5

Refer to the discussion of Alternative 5 in Chapters 2 and 4 of the final EIS concerning your comment.

SLCE Response 2-6

Refer to Letter Response 88-31 for a discussion of this topic.

SLCE Response 2-7

Wind resources represent a small percentage (5 percent) of the proposed alternative energy sources as presented in the Existing and Projected Electrical Energy Sources Mix section in Chapter 3 of the final EIS.

SLCE Response 2-8

Your comment is noted in the discussion of Alternative 5 in Chapters 2 and 4 of the final EIS.

SLCE Response 2-9

Purchases are by contracts which usually are written on timeframes and must be reaffirmed every 5 to 10 years. These contracts as written should allow time for making planning decisions.

SLCE Response 2-10

This would apply only to those independent power producers who actually generated enough power that they had lay-off capacity. It would not apply to most domestic systems where the energy produced is utilized to displace current power consumption rather than produce excess power. Nor would this apply to instances where the utility itself aggressively pursues this development of alternate energy sources, such as wind, geothermal, etc.

Comments of the
Environmental Defense Fund

on the
Draft Environmental Impact Statement
on the
Allen-Warner Valley Energy System

DATED: August 5, 1980

Environmental Defense Fund, 2606 Dwight Way, Berkeley, CA 94704 (415) 548-8906
OFFICES IN: NEW YORK, NY (NATIONAL HEADQUARTERS), WASHINGTON, DC, BERKELEY, CA, DENVER, CO

Good evening, my name is David Mastbaum, and I am western regional counsel for the Environmental Defense Fund ("EDF"), a national environmental organization with over 45,000 members. Thank you for the opportunity to comment on the Draft Environmental Impact Statement ("Draft" or "Draft EIS") on the proposed Allen-Warner Valley Energy System ("AWV Energy System").^{1/}

First, I would like to commend the Department of the Interior ("Department") and its AWV Energy System EIS team for doing an outstanding job in preparing the Draft EIS. This is a noteworthy achievement, not only because of the amount and complexity of the data, but because of the pressure to accelerate regulatory approval of the AWV Energy System. While EDF does not agree with all of the Draft's data and findings, and is particularly concerned about the decision not to include an in-depth evaluation of the proposed Alton mine,^{2/} the Draft EIS, for the most part, is a thoughtful and well written document which is a credit to the Department. In particular, the review and

^{1/} Bureau of Land Management, U.S. Department of the Interior, Allen-Warner Valley Energy System Environmental Impact Statement (draft 1980) as announced in 45 Fed. Reg. 42869 (1980).

^{2/} Draft EIS at 1-6

evaluation of conservation and alternative energy potentials, as an alternative to the AWV Energy System, deserves special mention, and should serve as an example to other federal agencies considering proposals for new coal- and nuclear-fired steam electric generating plants.

I would like to make two points this evening. First, even if the Draft's environmental data are interpreted in a way that is most favorable to the proponents of the AWV Energy System, the project still poses a serious risk to vital water resources, and to some of the most remarkable and majestic natural areas in the world. Second, these risks are unnecessary. A report completed by EDF just last week supports and expands upon the Draft's finding that a combination of conservation and alternative energy sources can fully match the AWV Energy System in terms of energy, capacity, reliability, and timeliness.^{3/} Because this combination of energy alternatives is environmentally and economically superior to not only the AWV Energy System, but also to the variations of that project, discussed in the Draft, it should be the Department's preferred alternative.^{4/}

Simply stated, energy alternatives can provide a greater energy yield in the same time period as the AWV Energy System

^{3/} Environmental Defense Fund, An Alternative to the Allen-Warner Valley Energy System: A Technical and Economic Analysis (1980).

^{4/} 40 C.F.R. §1502.14(e); see 40 C.F.R. §1505.2.

Salt Lake City Exhibit 3

David Mastbaum, Environmental Defense Fund

SLCE Response 3-1

The Environmental Defense Fund report, An Alternative to the Allen-Warner Valley Energy System: A Technical and Economic Analysis (1980), is utilized in THE analysis of Alternative 5 in Chapters 2 and 4 of the final EIS.

and its variations without serious environmental and economic risks. Moreover, development of these alternatives would not involve lifestyle changes or sacrifice on the part of the energy consumer; the important savings are not those of voluntary restraint, but redirecting utility investment away from conventional power plants towards preferable energy alternatives.

The Draft recognizes that the AWP Energy System, as proposed, threatens indigenous water resources.^{5/} The vital importance of water to the arid lands of the Southwest was recognized by John Wesley Powell nearly a century ago.^{6/} He made the point well: "where there is more land than can be served by the water, values inhere in the water, not in the land; the land without the water is without value."^{7/}

The AWP Energy System, if developed, could result in the loss of almost 10,000 acre-feet of groundwater per year,^{8/} the loss of 22 local springs and the reduction of an unknown number of wells and springs in adjacent valleys.^{9/}

^{5/} Draft EIS at 4 4-24 through 4-40.

^{6/} J. Powell, Institutions For the Arid Lands, 40 Century Magazine 111, (1890).

^{7/} Id. at 112.

^{8/} Draft EIS at 4-70 (Table 4-7)

^{9/} Id.

the contamination and sedimentation of surface streams from strip mining, the reduction of flows in the Virgin River,^{10/} and an 80 percent increase of mean annual suspended sediment concentration in the Virgin River.^{11/}

The Draft also recognizes that the AWP Energy System would have adverse effects on Bryce and Zion National Parks. For example, the proposed Alton mine "would be a major intrusion on the landscape as viewed from Yovimpa Point" in Bryce Canyon, and "would generate dust, noise and air pollutants" which would impair "aesthetic and recreational values" in the park.^{12/} Moreover, power plant emissions could reduce air quality and visibility in Zion National Park.^{13/}

Fortunately, we do not have to choose between the impairment of vital water supplies and southern Utah's national parks, on the one hand, and adequate energy supplies on the other. As the Draft EIS recognizes, "energy conservation and the development of alternative energy sources" is a complete and reasonable alternative to the AWP Energy System.^{14/} This conclusion is supported fully

^{10/} Id. at 4-33.

^{11/} Id.

^{12/} Id. at 4-47.

^{13/} Id. at 4-48.

^{14/} Id. at 2-40 through 2-53, 4-143 through 4-148.

by a recent EDF report using a computer-based analytic methodology.

2 EDF's report finds that an alternative composed of increased end-use and distribution efficiency and increased development of geothermal, cogeneration, wind and biomass is fully feasible. If the two primary utilities involved in the AWW Energy System developed the alternatives instead of conventional power plants, they would save approximately \$500 million (in present value) for their ratepayers between now and 1992. The analysis also shows that developing the AWW Energy System and some of the preferred alternatives, an option often proposed as a compromise, is economically a worst choice for ratepayers, resulting in the highest bills of any of the scenarios analyzed. This is true even accounting for the benefits of very high reductions in oil and gas use. It should be emphasized that the conservation and alternative energy scenario developed by EDF would reduce oil and gas consumption between now and 1992 by 73% and 86% respectively for the two major utilities participating in the AWW Energy System.^{15/}

In conclusion, an alternative based upon conservation and alternative energy sources is not only environmentally preferable, but would have substantial economic benefits for utility ratepayers and, indeed, shareholders over develop-

^{15/} Oil and gas use would be reduced by 59% and 62% respectively if the additional cogeneration in the EDF scenario is counted.

ment of the AWW Energy System. Clearly, that alternative, as described and analyzed in the Draft (Alternative 5), should be Department's preferred choice.

I have attached to these comments EDF's report on the AWW Energy System and some additional technical comments on the Draft EIS. I would like to have these materials made part of the record.

Thank you.

SLCE Response 3-2

The results of the Environmental Defense Fund study are located in the discussions of Alternative 5 in Chapters 2 and 4 of the final EIS.

EDF'S SPECIFIC TECHNICAL COMMENTS ON THE DRAFT EIS

1. Surface water hydrology and reclamation (Draft EIS at 4-24 through 4-26)

(a) The Alton Mine

3 EDF's major concerns regarding surface water hydrology and reclamation are discussed in detail in its petition to designate the Alton area unsuitable for surface coal mining operations and its technical and economic report on the AWW Energy System. Many of the concerns are mentioned briefly in the Draft, but are not analyzed in sufficient detail to enable the reader to evaluate either the probability or magnitude of expected impacts.

4 A major area of uncertainty is the likelihood of successful reclamation in the Alton area. Impacts on productivity, surface water hydrology and esthetics are all tied to the success or failure of reclamation efforts. Revegetation experiments conducted cooperatively by the U.S. Forest Service, Bureau of Land Management, and Utah International, Inc. provide some basis for determining the best technology to use in attempting to reclaim the area. For a number of reasons, however, (see EDF's petition and technical and economic analysis) these experiments provide no basis for assessing the likelihood of successful reclamation. Since the experimental results are being cited by project proponents as evidence that reclamation would be successful, some discussion of the experiments and their valid implications should have been included in the Draft EIS.

(b) The Warner Valley Water Project (Draft EIS at 4-29 through 4-38)

5 In general, the discussion of the hydrologic and water quality effects of the Warner Valley water project is complete and sufficiently detailed. Additional discussion of the significance of an 80 percent increase in mean annual suspended sediment concentration in the Virgin River would be useful. Such an increase could well have an impact on channel morphology in the Virgin River downstream from the project and adversely affect the habitat of the roundfin minnow. These possibilities should have been discussed in more detail in the Draft EIS.

2. Groundwater Hydrology (Draft EIS at 4-26 through 4-29)

The Draft correctly identifies the impact of groundwater

SLCE Response 3-3

Refer to the OSM draft Southern Utah Petition Evaluation Document (USDI, OSM, 1980) and the revised Mining in the Alton Coal Lease Area section under Alternative 1 in Chapter 4 of the final EIS for more details regarding surface water hydrology.

SLCE Response 3-4

Revegetation studies in the Alton coal lease area were conducted in a manner which simulated the effects of strip mining. Several methods were then tested as revegetation methods. While some methods had better results than others, the studies did indicate that revegetation of the area can be accomplished.

SLCE Response 3-5

Refer to Letter Response 123-26 for a discussion of this topic.

6 pumping for the slurry pipeline on the groundwater of the Navajo Sandstone as a major unresolved issue. A recent study by the U.S. Geological Survey (subsequent to the preparation of the Draft EIS) suggests that the impacts of groundwater pumping would be considerably greater than suggested in the EIS. This analysis, known as the "Cordova Report", based on average transmissivities and coefficients of storage, suggests a drawdown after 27 years of 60 feet at a distance of ten miles. The analysis also suggests the likelihood of contamination of groundwater in the Navajo sandstone by more saline groundwater. These changes would threaten both flow and quality of existing wells, springs and streams. The discussion on groundwater in the Draft EIS seems overly optimistic.

7 The Draft EIS mentions the existence of numerous faults in the vicinity of Bald Knoll, but states that "there is insufficient information to determine the extent of these faults in the Navajo Formation." It is difficult to imagine how these faults could have displaced the Cretaceous rocks near Bald Knoll without also displacing the underlying Jurassic (older) Navajo Formation. These faults would exacerbate the impacts of pumping on existing water supplies.

3. Effects on Park Resources (Draft EIS at 4-47)

8 Recent blasting tests have shown that noise from the mine would be audible throughout Bryce Canyon National Park. The data from these tests are not yet publically available. They should be evaluated and included in the Final EIS.

4. Energy Conservation (Draft EIS at 2-42 and 4-147)

9 The conservation and load management measures for the Southern California Edison Co. and the Pacific Gas and Electric Co. evaluated in the Draft are based on the California Energy Commission's "high conservation" case (Draft EIS at 2-52, Table 2-18). The Draft EIS states, "[i]ndividuals would be reluctant to change their lifestyles to accommodate..." these measures (*id.* at 4-147). The Draft misrepresents the high conservation case. Measures such as "more efficient appliance standards" or "faster conversion to sodium vapor street lamps" can hardly be considered lifestyle changes. Even air conditioner load management has very minimal impacts (air conditioners are cycled off only 7 minutes each half-hour). Pool and water heater load management have

[no customer-discernible effects whatsoever. The "high-conservation case" obviously does require initiative; it does not require sacrifice.

SLCE Response 3-6

The final EIS is revised to include recent studies and simulations on the effects of ground water pumping for coal slurry near Bald Knoll. This includes a review of the Cordova report. Refer to the Groundwater Pumping for Coal Slurry section under Alternative 1 in Chapter 4 in the final EIS for additional information.

SLCE Response 3-7

Refer to Letter Response 6-4 for a discussion of this comment.

SLCE Response 3-8

The Recreation and Aesthetics section in Chapter 3 and in Alternatives 1 through 3 of Chapter 4 are revised in the final EIS to include the tests mentioned in your comment.

SLCE Response 3-9

As shown in the final EIS, the discussions of Alternative 5 in Chapters 2 and 4 are changed to reflect this comment.

SLCE 4

Critique of The Allen-Warner Valley Energy System

Draft Environmental Impact Statement

The Utah Chapter of The Sierra Club

The Utah Chapter of The Sierra Club appreciates the opportunity to participate in the public hearing concerning the proposed Allen-Warner Valley (AWV) Energy System, and to address our concerns with the Draft Environmental Impact Statement (DEIS) for the project.

Our major concern is with the adverse effects on Zion and Bryce Canyon National Parks and several adjacent BLM Proposed Wilderness Study Areas (WSA's) if alternative 1, 2, or 3 for the project is constructed. The importance of Zion and Bryce Canyon National Parks cannot be overemphasized: as noted in the DEIS, almost 2,000,000 people visited these two parks in 1979. Their preservation as a national heritage must receive the highest priority. The area affected by the project also includes two major and ten minor BLM proposed WSA's of outstanding beauty and wildness, unique in the world. Their protection is also clearly of the greatest importance.

While it is understood the DEIS represents considerable effort by the BLM, we believe it is seriously deficient and does not meet the standards required by NEPA for such a document. These deficiencies will be first addressed, following which conclusions and recommendations will be presented.

Critique

1. The purposes of a DEIS are to provide citizen input to the decision process, evaluate the criteria by which decisions are to be made, and provide comment on the adequacy of the data base. Perhaps the most serious

Salt Lake City Exhibit 4

Jack Spence, Sierra Club

SLCE Response 4-1

The draft and final EIS attempt to analyze and objectively present the impacts of six alternatives on man and his environment. Using this information, the land manager can make a knowledgeable decision that most nearly fits the needs of society and also protects the natural resources from deterioration. Refer to the Agency Preferred Alternative and table 2-19 presented near the end of Chapter 2 in the final EIS.

The screening matrix presented in Appendix 2 was designed to identify viable alternatives, not to compare the impacts of these alternatives.

deficiency of the DEIS is that no useful criteria - no rules of the game- by which the preferred alternative may be judged are presented. Appendix 2, Screening Matrix for Alternatives, allows no distinction between the alternatives to be made - they all appear equally acceptable, which certainly cannot be the case. Thus, no citizen input with respect to the adequacy of this most important part of a DEIS can be made. Of equal importance, no subsequent evaluation of the extent to which the BLM follows the criteria in the selection process can likewise be made. The major purposes of the DEIS are therefore defeated. Apparently, the BLM will make a decision concerning the preferred alternative^{based} on arbitrary criteria, with no effective chance for public comment on their suitability. Experience has shown once the final EIS is published, further comment has little effect, since the major decision has been made. The impression obtained from the DEIS is that the BLM has already made their decision, and the criteria and data will be manipulated to justify itⁱⁿ the final EIS. This clearly violates the intent of NEPA, which is to involve the public at all levels in the important decisions.

2. The second major criticism of the DEIS is the inadequacy of the data base. Major areas of concern are a) need for the project; b) air quality and visibility; c) water quality and quantity; d) vegetation and wildlife effects; e) archeological resources. In all these areas of critical concern, studies are still underway, or have not yet been reported. Most importantly, as is discussed in (1) above, how these studies will be used by BLM in designation of a preferred alternative is not addressed. Some of these concerns are treated in more detail below.

3. While the electrical energy needs for the SCE and PGE areas of California have been given a preliminary evaluation by CEC, the needs in the NPC area have apparently received no independent evaluation, the forecasts being due to the NPC. Furthermore, annual growth rates in the NPC area

SLCE Response 4-2

Refer to Letter Responses 22-1, 111-8, and 121-3 and the Cultural Resources section under Alternative 1 in Chapter 4 of the final EIS for a discussion of this comment.

SLCE Response 4-3

The final EIS does include an independent analysis of energy needs in the NPC service area. The forecast results are not significantly different from NPC's own forecast for future energy demand.

are forecast at approximately 4%, a figure greatly in excess of current national estimates. As pointed out in a recent article in Science ("Energy Forecasts: Sinking to New Lows," 208, 1353 (1980)), current forecasts of energy growth are considerably lower than even two years ago, and still dropping. As stated in the article, "The utilities are in a difficult spot because they have made long term commitments.... which they justified at the time by reference to their own rising demand forecasts. But the forecasts were wrong." The NPC forecasts appear to be in this category and certainly need independent analysis; no such analysis, however, is underway.

4. In the analysis of alternative 4, it is assumed new mines will be needed in Wyoming and/or central Utah to provide coal for the Harry Allen plant. No analysis has been made, however, of capacities of mines in these areas currently in operation. It is quite possible no new mines will in fact be needed, and the consequent effects associated with opening new mines would be non-existent.

5. Alternative 5 stresses possible costs of energy conservation to users. No analysis has been made of the real costs to users of alternatives 1,2,3 and 4. These costs include loss of tourist income due to degradation of visitor experience in the National Parks, air pollution, loss of income because of lowering of the water table in the Alton area, increased vandalism and ORV damage in the National Parks and WSAs due to increased population. Such costs must be taken into account in order to make meaningful comparisons with costs attributed to alternative 5.

6. No analysis of relative environmental effects of alternative 6 and other alternatives has been made. The assumption seems to be any adverse effects of the AWW project would simply be transferred to other sites in California. This fails to take into account the proximity of the AWW

SLCE Response 4-4

The Coal Resources Quality and Availability section of the final EIS is revised to include a discussion of coal availability.

SLCE Response 4-5

As instructed in CEQ regulation 1502.33: "... the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations. . . [but] should at least indicate those considerations; . . . which are likely to be relevant and important to a decision."

SLCE Response 4-6

The analysis of Alternative 6 is revised to reflect your comment in the final EIS. Should other projects be proposed as a result of a "No Action" decision on AWW, site design, studies, permits, etc. and an EIS would be required just as they were required for the AWW project. The identical environmental impacts would not be transferred to other sites. The intention of the statement is to acknowledge that similar environmental impacts (e.g., air quality, water resources, cultural resources, etc.) could occur and would have to be evaluated.

project to Zion and Bryce Canyon National Parks and several WSA's. In fact, it is difficult to imagine an environmentally more undesirable location than the Warner Valley and Alton units of the project. They are indeed comparable to the initial site adjacent to Capitol Reef National Park proposed, and subsequently vetoed by Secretary Andrus, for the IPP plant. A detailed assessment of the local environmental effects in California vis-a-vis the AWV project must be made before any conclusions may be drawn.

7. No analysis is made of the effects of the project on a number of BLM proposed WSA's in the region. These include two major WSA's, Caneas Mountain (UT-040-143), and Parunuweap (UT-040-230), and ten small WSA's contiguous with Zion National Park (UT-040-145-150, 153, 154, 176, 177). Since all these areas are adjacent to Zion National Park, any adverse effects present in the Park will also affect them. These areas, recognized by the BLM as outstanding in scenery and opportunities for wilderness, need the same protection as the National Parks.

8. In view of the projected needs for electrical energy, the selection of alternative 1 would result in excess generating capacity. This would likely result in increased industrial growth in the St. George area in order to use the energy, with a consequent increase in air pollution, water degradation, vandalism and ORV destruction in the Parks and WSA's. No consideration of this effect is found in the DEIS.

9. The cumulative environmental effect of the Reid Gardner Plant addition, the gigantic IPP plant, the MX missile program, and other planned energy projects in respect to the AWV project has been ignored. The policy and practice of viewing each project as if it existed in a vacuum cannot be justified. The cumulative effects of air pollution over the entire area must be taken into account before any new polluter is granted a permit. The long term effect of such pollution over wide areas is now being seen in the eastern states in the form of acid rain; recently, such acid rain has

SLCE Response 4-7

An analysis of impacts is not included in the EIS because these proposed WSAs would not be adversely impacted. Specifically, these areas would not be affected by project component siting, nor would their Class II Air Quality status be violated.

SLCE Response 4-8

There would be a possibility of increased growth in St. George should there be an ample supply of electrical generating capacity. This is discussed in the Socioeconomics and Land Use, Land Use Plans and Controls sections in Chapter 4 of the final EIS. There are no studies, however, which indicate that the availability of electricity is in itself a criterion for industrial location. The actual direction of a community to industrialize or not is up to the local planning commission and the public.

SLCE Response 4-9

The final EIS includes discussions on other projects which would be interrelated with AWV. The cumulative impacts of existing powerplants (i.e., Reid Gardner) and the proposed Harry Allen and Warner Valley powerplants is discussed in the Cumulative Impacts sections, Air Quality in Chapter 4 of the final EIS.

been detected along the crest of the Rocky Mountains in Colorado. Without consideration of cumulative effects, any air pollution analysis is highly suspect. The DEIS should consider this important aspect in detail.

Conclusions

Based on the data presented in the DEIS and the considerations discussed above, the following conclusions with regard to the AWW project have been reached:

1. The Warner Valley plant is not needed (DEIS, p.1-2); its construction as part of alternative 1 would result in excess capacity.
2. NPC electrical needs are probably grossly overestimated and should be reduced substantially.
3. The Warner Valley Water Project is not needed for culinary water and no other needs have been proposed (DEIS, p.4-30).
4. Alternative 1 will likely result in violation of Class I Air Quality Standards in Zion National Park and adjacent WSA's, as well as in deterioration of visibility in both Zion and Bryce Canyon National Parks.
5. Construction of the Warner Valley Water Project as described in alternative 1 will likely result in critical loss of habitat of the endangered Woundfin Minnow^{and} the proposed endangered Roundtail Chub fishes.

Recommendations

1. A supplement to the DEIS should be issued as soon as possible (no later than September 15, 1980) detailing the criteria and methods to be used to select the BLM preferred alternative. This would permit citizen evaluation of their suitability and allow subsequent evaluation of the extent to which they are followed in the selection of the preferred alternative by BLM. In addition, the supplement should include any data that has been reported from ongoing studies since the publication of the DEIS.

2. The Utah Chapter of The Sierra Club, in view of the above conclusions, endorses alternatives 5 and 6, Energy Conservation and Alternate Energy Sources, and No Action, of the DEIS for the AWW project and strongly recommends the selection of either as the preferred alternative by BLM.

The Utah Chapter of The Sierra Club

Prepared by:

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 1249 Island Dr.
 Logan, Utah 84321

SLCE Response 4-10

Your comments are noted and will be considered in the decision making process.

SLCE Response 4-11

Refer to Letter Responses 22-1, 63-2, 111-8, and 121-3 for a discussion of this comment.

SLCE⁵

STATEMENT OF POSITION OF CALIFORNIA PUBLIC UTILITIES COMMISSION STAFF

My name is F. Hunter Weiler. I'm a consultant to the staff of the California Public Utilities Commission (CPUC). The Project Manager of the CPUC Allen-Warner Project Team has authorized me to make this statement tonight on behalf of CPUC staff.

Southern California Edison Company (SCE) and Pacific Gas and Electric Company (PG&E) would own approximately 80% of the proposed Allen-Warner Valley Energy System (AWVES). The CPUC must issue a Certificate of Public Convenience and Necessity (CPCN or "Certificate") to the California utilities before they may participate in the AWVES project.

I wish to emphasize that I am speaking on behalf of the CPUC staff only. The five-member Commission is an independent State of California regulatory agency which will make the final decision on the Certificate which SCE and PG&E have requested. The staff is an independent party before the Commission in this proceeding, and will make recommendations to the Commission.

Since various federal processes are also involved, CPUC has been cooperating actively and diligently with the federal agencies reviewing the project. CPUC staff provided assistance to the BLM in the development of the draft EIS. The assistance provided was mainly in the areas of need and alternatives for the California utilities, areas in which we have particular expertise. Due to limitations imposed by California law, CPUC staff has not attempted and will not attempt to provide comment on non-California environmental issues; CPUC staff will, however, take into account in its recommendations the impact these issues may have on cost, schedule and reliability of the proposed project. We congratulate the BLM on producing a comprehensive EIS on a complicated project proposal. CPUC staff will, of course, continue to cooperate with federal agencies on this project.

As part of CPUC's certification process, staff issued a draft Environmental Impact Report (EIR) on July 31. The EIR addresses the issues of need and alternatives, as well as the environmental impacts of the project in California.

On the subject of the bulk power supply needs of the SCE and PG&E, the EIR summary states:

"Using the CEC demand forecast, for the period 1987-1992, if the baseline supply plan developed here can be almost completely built and brought on line approximately on schedule, then there would be no need for the project strictly to meet traditional reliability criteria. There is, however, always some uncertainty inherent in any resource plan. Some facilities may not ultimately meet all regulatory requirements, or may not come on line on schedule for other reasons. Furthermore there is, as discussed in Section 1.662, a need supported by federal and State policy to develop resources beyond those needed only to assure reliability for

CPUC Staff Statement Page Two

the purpose of reducing oil use in electric generation. Such resource development includes building new generating capacity."

The CPUC draft EIR indicates that this need could be met in part by the Allen-Warner Project or variations of it. The EIR also recognizes that there are other alternatives that could be brought on line in the time frame proposed. The EIR acknowledges that there are problems with and constraints on all available alternatives, including Allen-Warner. The task before the CPUC and other agencies is to choose the best method for meeting our future energy needs.

CPUC staff notes that the proposed Allen-Warner Valley Energy System is actually an aggregation of several separate projects, and that some of these projects may be undertaken without others. For example, coal could be shipped from existing mines over the present railroad system to the Allen power plant without constructing the Warner Valley power plant or the Alton mine and slurry pipelines.

The CPUC draft EIR does not contain a recommendation on the proposed Allen-Warner Project or on any of the alternatives to it. The CPUC staff will make its recommendations in a report to be issued August 18. The Commission will issue a final EIR about late November of this year and will make its final decision by January 9, 1981.

CPUC or its staff may submit a written response to the BLM draft EIS. Staff has provided BLM with the draft EIR, and will provide BLM with the August 18 report and supporting technical documents. Staff will be available to assist the BLM in incorporating this information into the final EIS. This concludes my prepared statement.

Salt Lake City Exhibit 5

F. Hunter Weiler, California Public Utilities Commission

SLCE Response 5-1

The draft EIR information compiled by the CPUC staff is included in the final EIS.

SLCE Response 5-2

Information contained in the CPUC staff recommendations has been reviewed and pertinent data is included in appropriate sections of the final EIS.

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